



Icahn School
of Medicine at
Mount
Sinai

Dennis S. Charney, MD
*Anne and Joel Ehrenkrantz Dean,
Icahn School of Medicine at Mount Sinai,
President for Academic Affairs,
Mount Sinai Health System
Professor, Departments of Psychiatry,
Neuroscience, and Pharmacology
& Systems Therapeutics*

Mount Sinai Health System
One Gustave L. Levy Place, Box 1217
New York, NY 10029-6574
T 212-241-5674
F 212-824-2302
dennis.charney@mssm.edu

May 2, 2017

Physician-Focused Payment Model Technical Advisory Committee
C/o U.S. DHHS Asst. Secretary for Planning and Evaluation Office of Health Policy
200 Independence Avenue S.W.
Washington, D.C. 20201
PTAC@hhs.gov

Re: “HaH-Plus” (Hospital at Home Plus) Provider-Focused Payment Model

Dear Committee Members,

On behalf of the Icahn School of Medicine at Mount Sinai, I would like to request a review and approval of an innovative, physician-focused payment model for the provision of acute hospital-level care and 30-days of transition services in the homes of carefully selected Medicare beneficiaries. The title of the proposal is “*HaH-Plus*” (*Hospital at Home Plus*) *Provider Focused Payment Model*.

We at the Icahn School of Medicine at Mount Sinai firmly believe that the implementation of this payment model will result in improved patient safety, reduced mortality, enhanced quality, and reductions in the costs incurred to provide acute care for medical illness.

Please see below for the project sponsor and primary point of contact:

Project Sponsor

Dennis S. Charney, MD, Dean
Icahn School of Medicine at Mount Sinai
One Gustave L. Levy Place, Box 1217
New York, NY 10029-6574
T: 212-241-5674

Dennis.charney@mssm.edu

Primary Point of Contact

Albert Siu, MD
Icahn School of Medicine at Mount Sinai
One Gustave L. Levy Place, Box 1070
New York, NY 10029-6574
T: 212-241-4290

Albert.siu@mssm.edu

**“HaH-Plus” (Hospital at Home-Plus):
Provider-Focused Payment Model**

Table of Contents

Abstract	<i>Page iv</i>
1. Background and Model Overview	<i>Page 1</i>
2. Scope of Proposed PFPM	<i>Page 2</i>
3. Quality and Cost	<i>Page 7</i>
4. Payment Methodology	<i>Page 9</i>
5. Value over Volume	<i>Page 14</i>
6. Flexibility	<i>Page 15</i>
7. Ability to be Evaluated	<i>Page 16</i>
8. Integration and Care Coordination	<i>Page 17</i>
9. Patient Choice	<i>Page 17</i>
10. Patient Safety	<i>Page 18</i>
11. Health Information Technology	<i>Page 19</i>
12. Supplemental Information – References	<i>Page 20</i>
Appendices	<i>Page 21</i>

Abstract

Hospital at Home Plus (HaH-Plus) is a physician-focused payment model designed to engage physicians and other professionals in ordering, providing, and managing hospital-level services at home for beneficiaries with selected acute illnesses and acuity levels who would otherwise be hospitalized. Traditional fee-for-service (FFS) Medicare does not currently provide adequate payment for such care. Unfortunately, lack of a payment model in FFS Medicare has limited dissemination of HaH, under which providers furnish acute hospital-level services that are beyond the current scope and intensity of Medicare skilled home health care services and physician home visits.

Enabling HaH-Plus care in Medicare will be a transformative change in U.S. health care delivery. Although the hospital is the standard venue for providing acute medical care for serious illness, it is expensive and hazardous for vulnerable older persons who commonly experience functional decline, iatrogenic illness, and other adverse events during care. Providing acute hospital-level care in a patient's home for carefully selected patients is patient-centered and demonstrated in scores of randomized trials to improve patient safety, reduce mortality, enhance quality, and reduce the costs of providing acute care for medical illness.^{1,2,3}

¹ Shepperd, S. et al. "Avoiding Hospital Admission through Provision of Hospital Care at Home: A Systematic Review and Meta-analysis of Individual Patient Data." *Canadian Medical Association Journal* 180.2 (2009): 175-82. Web.

² Caplan, GA et al. "A Meta-analysis of "hospital in the Home"." *The Medical Journal of Australia*, 5 Nov. 2012. Web.

³ Shepperd, S. et al. "Hospital at Home Admisison Avoidance." *Cochrane Database of Systematic Reviews* (2008). Web.

1.1 Background and Model Overview:

We propose Hospital at Home Plus (HaH-Plus) as a PFPM to engage physicians and other professionals in providing hospital-level services at home for beneficiaries with selected acute illnesses and acuity level who would otherwise be hospitalized. HaH-Plus is a bundle covering the acute episode and an additional 30-days of transition services. Traditional fee-for-service (FFS) Medicare does not provide adequate payment for such care. Lack of a payment model in FFS Medicare limits dissemination of HaH, under which providers furnish hospital-level services beyond the current scope of Medicare skilled home health services and physician home visits.

Enabling HaH-Plus care in Medicare will be a transformative change in U.S. health care delivery. Although the hospital is the standard venue for providing acute medical care for serious illness, it is expensive and hazardous for vulnerable older persons who commonly experience functional decline, iatrogenic illness, and other adverse events during care. Providing acute hospital-level care in a patient's home for carefully selected patients is patient-centered and demonstrated in scores of randomized trials to improve patient safety, reduce mortality, enhance quality, and reduce the costs of providing acute care for medical illness.^{1,2,3}

Each episode in the proposed HaH-Plus PFPM would be composed of two parts: 1) The acute care HaH episode, analogous to a traditional hospital admission; and 2) Transition services over 30 days, beginning upon discharge from the acute episode, to complete recovery from the acute episode and ensure a safe and high quality transition to the beneficiary's primary care clinician.

There would be two components to the payment model: 1) a new DRG-like Hospital at Home (HaH) payment to substitute for the acute inpatient payment to the hospital and attending physician; and 2) the potential for a performance-based payment linked to the total Medicare spend for the entire HaH-Plus episode and the APM entity's performance on quality metrics.

The new per-episode DRG-like HaH payment would cover the core HaH-Plus services that currently cannot be billed adequately under Medicare FFS, while other services would be billed as usual. Under the performance-based portion of the APM, the APM entity would be eligible to participate in shared savings based on a comparison of Medicare payments (inclusive of the HaH payment) against a target amount for the HaH-Plus episode.

At scale, we anticipate approximately 575,000 Medicare FFS discharges could occur as HaH-Plus episodes annually.⁴ This would allow beneficiaries to receive acute services at home and in the community, would engage roughly 7,000 physician full time equivalents, and would generate up to \$720 million in savings to be split between CMS and the APM entities (see Appendix I).

1.2 Definitions:

- **HaH** refers to the original hospital at home clinical model. The original HaH model ends on discharge from the acute episode and does not include the 30-days of transition services, which begin at discharge from the acute phase, that are part of the **HaH-Plus** program.
- **Core HaH-Plus Services** means the pre-acute, acute, and 30-days of transition services furnished in the APM. Detailed examples of these services are listed in Appendix E.
- **Core HaH-Plus Team** means the team of designated professionals, including physicians, nurse practitioners, social workers, skilled therapists, and home health aides who will directly furnish core HaH-Plus services (see Appendix C).

¹ Shepperd, S. et al. "Avoiding Hospital Admission through Provision of Hospital Care at Home: A Systematic Review and Meta-analysis of Individual Patient Data." *Canadian Medical Association Journal* 180.2 (2009): 175-82. Web.

² Caplan, GA et al. "A Meta-analysis of "hospital in the Home"." *The Medical Journal of Australia*, 5 Nov. 2012. Web.

³ Shepperd, S. et al. "Hospital at Home Admisison Avoidance." *Cochrane Database of Systematic Reviews* (2008). Web.

⁴ Analysis of 100% and 5% Medicare Limited Data Sets claims files for 2015 at hospitals with at least 500 inpatient admissions in the proposed HaH-Plus MS-DRGs.

- **HaH payment** refers to the up-front APM payment for services furnished during the acute portion of the HaH-Plus episode.
- **HaH performance-based payment** refers to the second part of the APM that compares total Medicare spending for the entire HaH-Plus episode against a target amount.

2.1 Scope of Proposed PFPM:

The principal focus of HaH-Plus will be to provide treatment in the home for patients who would otherwise require hospital admission for selected acute conditions identified in emergency departments, observation units, ambulatory care, or at home (Appendix A contains a list of proposed conditions and existing inpatient DRGs). In 2015, these conditions accounted for approximately 575,000 Medicare FFS inpatient admissions each year at hospitals with more than 500 admissions in the proposed MS-DRGs, approximately 20 percent of which could be transitioned to HaH-Plus if the PFPM were to scale (Appendix I). Patients and family have the choice of electing hospital services in HaH-Plus. After a beneficiary selects HaH-Plus, a core HaH-Plus team will provide visits in the patient's home, 24/7 coverage, and hospital-level and postacute services. This core HAH-Plus team will also employ ancillary services such as community-based radiology, lab services, durable medical equipment, pharmacy, infusion, and telemedicine. The team will provide transition services for 30 days following discharge from the acute period, with the services rendered depending on patient need and eligibility for Medicare-covered services. The team will ensure a safe transition to community providers and refer to appropriate services. Team members will document services and communicate using an EHR adapted specifically for HAH-Plus. The EHR will also support the derivation of tracking measures and quality metrics that will be used to monitor processes and outcomes, as well as provide for accountability to beneficiaries and the Medicare program.

We propose the HaH-Plus bundle (acute episode and 30-days of transition services) be an Advanced APM PFPM with a two-part payment system to support the core HAH-Plus services for which current Medicare FFS reimbursement is either complicated because the patient may not be *chronically* homebound to receive home services or inadequate (e.g., multiple physician visits over a few days, an initial nursing visit lasting several hours for evaluation, administration of treatment, and monitoring). The two parts of the APM payment system include: 1) A new per-episode DRG-like Hospital at Home (HaH) payment to substitute for the acute inpatient payment to the hospital and attending physician; and 2) The potential for a performance-based payment that is linked to the total Medicare spend for the entire HaH-Plus episode (i.e., acute episode plus the 30-days of transition services) and the APM entity's performance on quality metrics.

We propose that the new per-episode DRG-like HaH payment will cover the core HaH-Plus services, including those that currently cannot be billed adequately under Medicare FFS. Services other than the core HAH-Plus services would be billed FFS. In the performance-based portion of the HaH-Plus APM, the APM entity would be eligible to participate in shared savings based on a comparison of Medicare payments (inclusive of the HaH payment) against a target amount (discussed later) for the HaH-Plus episode; if the episode payment is below the target, the APM entity will share first dollar in shared savings subject to meeting CEHRT standards and minimum quality metrics; if the episode payment is above this target, the APM will share in losses accordingly. Providers not participating in the APM entity would not participate in shared savings. The proposed payment system is modeled after the Oncology Care Model (OCM) and the Bundled Payments for Care Improvement (BPCI) program with respect to the episode length, method of reconciliation of costs, and number of beneficiaries served by the APM entity.

By transitioning from the acute inpatient setting to the home, the proposed PFPM will directly affect the method and amount of payments for hospital and home services currently delivered, managed or coordinated by one or more types of physicians or other eligible professionals. Likewise, a substantial portion of the payments will support services that physicians order or deliver, including the hospital and home care services that currently require certification of eligibility, orders and supervision by physicians. Furthermore, it will enable the APM entity to engage providers in care in the home, where physician engagement is needed but limited.

In our CMMI-supported work to provide acute services at home for select patients who would otherwise be hospitalized, we found that the program was best complemented with two variants that will also be included in HaH-Plus: 1) Observation at Home; and 2) Palliative Care at Home.

Observation at Home allows patients to receive treatments at home that they would otherwise have received in an observation unit. Patients who require continued hospital-level services after a day can be converted to HaH; those who do not require further acute care end their observation services and are followed for 30 days by HaH-Plus. Palliative Care at Home is designed for patients who meet criteria for, but have not yet elected, hospice and who require but prefer not to be hospitalized. These patients are enrolled and served with acute-level services at home. To date, in our CMMI-supported work, all of these patients elect hospice at some point in our program, and 30-day mortality has been 35%.

This PFPM will provide physicians from a wide range of practices (see 2.2.a, c, and d) with the option, resources, and accountability to provide acute services in the home. Beneficiaries will have expanded choice to receive needed acute services in either the hospital or home when clinically appropriate and the high probability of improved patient experience and outcomes.

2.2 Related to physicians or eligible professionals' practices:

◦ 2.2.a. Type of physicians or other eligible professionals' practices:

The proposed PFPM is targeted towards involving physicians and nurse practitioners in delivering, managing, and coordinating hospital, transition, and home care services. These practitioners will be involved in delivering these services, managing and coordinating services delivered by other eligible professionals not participating in the PFPM (physical therapists, and occupational therapists, qualified speech language pathologists, clinical social workers and registered dietitians), as well as services provided by registered nurses, and home health aides.

Physicians in the APM entity will order and participate in delivering and managing the core HaH-plus services. The core HAH-Plus services will consist of: physician and nurse practitioner services in the home; registered nurse services in the home; social work through entire episode; community paramedics for urgent assessments in the home; physical, occupational, and speech therapy as needed to preserve functional status; home health aide support for activities of daily living; and administrative support and program oversight.

The composition of a typical core HAH-Plus team is described in detail in Appendix C.

To ensure that APM entities have the necessary program elements in place to provide services effectively, safely, and consistently, we propose that APM entities be certified to participate in this PFPM. Certification could be performed along the lines of NCQA certification of patient-centered medical homes. Certification could be based on standards for compliance, patient access, EHR, population management, and performance and quality reporting (see Appendix H).

◦ 2.2.b. Interest by others:

There has been substantial interest in HaH particularly in the last five years from Medicare Advantage, Medicaid managed care, hospitals, health systems, ACOs, home health agencies, and private entrepreneurs. We receive inquiries about our CMMI-funded work each month. Programs

have been implemented for several years now at several VA medical centers. We are aware of interest in new or expanding programs and submit letters of interest (Appendix J) in the proposed APM from Presbyterian Health System (NM), Trinity Health, Cleveland Clinic, Kaiser Southern California, the University of Utah, Unity Point in Iowa, NCQA, and the Marshfield Clinic.

◦ 2.2.c. How many physicians if scaled?:

Scaling will be affected by market considerations, workforce, beneficiary acceptance, and provider ability to administer a bundled payment and willingness to assume risk. We have selected program features to address scaling (see 4.2.b, 6.2 and 6.3), including a) different payment models to accommodate both FFS and managed care; b) variants that do not involve bundling post-acute care; c) flexibility to accommodate non-participating physician consultants; d) using hospitalists if physicians in home care are scarce; and e) leveraging telehealth. These features will enable scaling and thereby engage a larger number of physicians.

We provide two estimates of the scope of physician involvement, both of which suggest around 7,000 physician full time equivalents could be involved if HaH-Plus were to be scaled across all payers. First, we consider Victoria, Australia where every metropolitan and regional hospital has a HaH program and approximately 5% of hospital days are provided via HaH. Assuming 5% of days and that the level of physician effort to care for these patients is approximated by current US hospitalist workload, we estimate that roughly 7,000 full-time physicians could work full time on HaH-Plus, if fully scaled. In practice, more than 7,000 would be involved because many physicians would have this activity as only part of their professional effort.⁵ For a second estimate, we used the annual volume of discharges in the 18 diagnoses and 50 DRGs that are common candidates for HaH-Plus and the 21% of patients that our physicians estimate could potentially be clinically appropriate for HaH-Plus (weighted average was 21% across the 50 DRGs), we estimated that 1.7 million discharges could be clinically appropriate nationwide across all payers.⁶ This translates to roughly 6,800 physicians devoted full-time to HaH, using the earlier hospitalist assumptions.⁷

◦ 2.2.d. Payment model for employed and independent physicians:

We propose that the APM's governance develop site-specific methods for allocating effort to APM activities and distributing APM income as well as financial risk. For some physicians, 100% of clinical effort may be devoted to the APM, while others may devote as little as 20% effort to the APM (e.g., with remaining effort in outpatient work). The physician's effort on the APM could substitute for other clinical effort and compensation, including RVU-based effort.

◦ 2.2.e. Previous implementation experience:

Johns Hopkins has worked to provide technical assistance to HaH adopters. The model has been successfully adopted where economic incentives are aligned, including in VA sites and Presbyterian Health System (NM), where over 90% of patients offered HaH opted for it, clinical and quality outcomes are superb, and costs are markedly reduced.⁸

The Mount Sinai Health System, the largest integrated delivery system in New York state, established the Mobile Acute Care Team (MACT) with support from CMMI in 2014. Because

⁵ Elliott, Daniel J., Robert S. Young, Joanne Brice, Ruth Aguiar, and Paul Kolm. "Effect of Hospitalist Workload on the Quality and Efficiency of Care." *JAMA Internal Medicine* 174.5 (2014): 786. Web. Dec. 2016.

⁶ Department of Health and Human Services. *HCUP*. Healthcare Cost and Utilization Project, n.d. Web. Dec. 2016. <<https://www.hcup-us.ahrq.gov/nisoverview.jsp>>.

⁷ Elliott, Daniel J., Robert S. Young, Joanne Brice, Ruth Aguiar, and Paul Kolm. "Effect of Hospitalist Workload on the Quality and Efficiency of Care." *JAMA Internal Medicine* 174.5 (2014): 786. Web. Dec. 2016.

⁸ Cryer, L., S. B. Shannon, M. Van Amsterdam, and B. Leff. "Costs For 'Hospital At Home' Patients Were 19 Percent Lower, With Equal Or Better Outcomes Compared To Similar Inpatients." *Health Affairs* 31.6 (2012): 1237-243. Web.

MACT includes services beyond HaH (see 3.3), we use the term HaH-Plus for the HaH program implemented at Mount Sinai which includes 30-days of transition services following discharge from the acute episode. The Mount Sinai program has implemented and shown the feasibility of the team, services and program features in this proposal, including the adapted EHR, many of the quality metrics, use of video home visits and other technologies, obtaining timely community services, and incorporating new infusion technologies. Initial diagnoses included congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), cellulitis, community-acquired pneumonia (CAP), diabetes, and urinary tract infection (UTI) assuming hospitalization is required. As we gained experience, we expanded diagnoses and reduced the number of exclusionary conditions, while maintaining safety. The DRGs in Appendix A are the actual DRGs to which patients treated in our program would have been assigned if admitted.

Our experience with HaH-Plus (HaH-Plus n=247, controls [patients meeting program inclusionary criteria but from hospitals or times when HaH-Plus was not available] n=178) has been outstanding and has shown that our replication of the original HaH innovation was safe and effective: escalation of care to the inpatient setting during acute phase of HaH-Plus of 7.1%; length of acute stay 3.1 vs. 5.3 days (controls); modified HCAHPS overall rating 80.5 vs. 69.4 (controls); 30 day readmission 7.8% vs. 16.3 % (controls); and 30-day emergency department visits 5.3% vs. 10.1% (controls).

◦ **2.2.f. Small practices:**

HaH-Plus requires extensive care logistic management, interdisciplinary management, 24/7 availability, critical mass (to handle referral spikes and urgent visits), and financial resources that are likely beyond the scope of typical solo small independent practices. However, it may be possible to offer modifications to the payment methodology, such as lower stop-loss/stop-gain levels or upside-only risk to test the PFPM in smaller practices.

2.3. Related to patient population:

◦ **2.3.a. Population in its initial stages and if the model were expanded to scale:**

Expansion to scale will not likely occur in the first few years but could occur over time. Mount Sinai's program started with a set of 6 initial target diagnoses studied at Johns Hopkins and expanded to treat patients in approximately 50 DRGs, with the the potential to expand further. As noted in 2.2.c., these 50 DRGs could account for 1.7 million discharges nationwide if HaH-Plus scaled across all payers.⁹ As noted in 3.3, there are barriers to be overcome in getting to scale; however, our CMMI Award has provided us with an understanding of the issues that need to be addressed and how scaling could be approached. In the meantime, there is still a significant population that can be reached. Recent and growing interest (section 2.2.b) on the part of many others support this view.

◦ **2.3.b. Benefits for patients and protection against unintended consequences:**

Benefits for patients are detailed in response to Criterion 2 and include improved patient experience and satisfaction and reduced mortality, delirium, hospital-acquired infections, other complications, and care transitions with errors.^{10,11,12} Protections for patients exist at several levels. First, patients and families are given the choice to receive HaH-Plus. In our experience, a

⁹ Department of Health and Human Services. *HCUP*. Healthcare Cost and Utilization Project, n.d. Web. Dec. 2016. <<https://www.hcup-us.ahrq.gov/nisoverview.jsp>>.

¹⁰ Shepperd, S. et al. "Avoiding Hospital Admission through Provision of Hospital Care at Home: A Systematic Review and Meta-analysis of Individual Patient Data." *Canadian Medical Association Journal* 180.2 (2009): 175-82. Web.

¹¹ Caplan, GA et al. "A Meta-analysis of "hospital in the Home"." *The Medical Journal of Australia*, 5 Nov. 2012. Web.

¹² Shepperd, S. et al. "Hospital at Home Admission Avoidance." *Cochrane Database of Systematic Reviews* (2008). Web.

small percent of patients decline HaH-Plus even if clinically appropriate (e.g., because of concerns about space for equipment in the home). Second, the HaH-Plus team is available 24/7 for an urgent visit or to engage in a telehealth-supervised visit from a community paramedic team that is part of the care team. Third, the program is fully aligned with our hospitals, and patients can be “escalated” and moved to the hospital if there are clinical concerns. Patients retain the right to request an “escalation” and move to the acute care hospital during the acute phase of HaH-Plus. Fourth, our program has instituted a robust patient safety and quality tracking function that reviews all cases and all variations in service (e.g., family members who accidentally freeze medications) and developed protocols to prevent their recurrence. Fifth, we have maintained a system for independent review of adverse events by an external committee.

2.4. Anticipated impacts on Medicare spending:

In the short run, the impact of the proposed PFPM will be small to moderate. The long run impact of moving these and additional services from the hospital to the home are large and more difficult to estimate due in part to the potential and rather substantial long-term impact of reduced capital spending for hospital beds if successful. To give an estimate of the scope of potential savings, we translate to dollars the estimates made earlier in sections 2.2.c and 2.3.a. on 1.7 million discharges annually across all payers. Based on analysis of 2015 claims data, we believe that approximately 575,000 annual Medicare FFS discharges could be HaH-Plus episodes. Previous studies of HaH indicate savings of 19-34% relative to inpatient hospitalization, and a meta-analysis estimated reduced case costs of \$1,567. Applying a similar logic to the Medicare population in the analysis and accounting for the proposed payment levels, including the cost of furnishing core HaH services, yields reduced expenditures of \$1,259 per Medicare HaH-Plus episode. Under the proposed 3% discount, Medicare would receive approximately \$394 per episode, with the participant hospital being eligible to retain the additional \$865 per episode. If 20% of the episodes transition to HaH-Plus, Medicare could save \$45 million per year (see Appendix I). The magnitude of savings will be smaller in the short run since scaling will take time. However the long run impact is likely to be much greater. First, HaH-Plus can also be used to test transitioning other clinical services from the facility setting to home (4.2.c). Second, HaH could be used for a number of other clinical applications (e.g., in BPCI) where rulings have us impeded from doing so. Third, we have not estimated the potential impact from reduced hospital beds and related capital costs. Fourth, we have not included indirect benefits from improved patient outcomes (e.g., reduced delirium and mortality, hospital-acquired infections, other complications, and care transitions with errors) that could translate to reduced complication-associated health expenditures and additional public health impacts by limiting the spread of hospital-acquired antibiotic-resistant organisms into the community. Fifth, we have not estimated the potential impact of the continued development of remote monitoring, point of care testing, and other enablers of home-based medical care.

2.5. Spillover effects on Medicaid, CHIP, TRICARE/VA, or private health spending:

The impact of the proposed PFPM will not be limited to Medicare. Involvement of other payers will likely cause beneficial spillover effects and contribute to the successful scaling necessary to achieve critical mass, administrative savings, and culture change (see 3.3). In the current implementation at Mount Sinai, we have been in contract discussions with several health plans for HaH-Plus. Additionally, 8.7% of current patients are dually eligible for Medicare and Medicaid, and 9.8% of patients were in Medicaid managed care plans. One of our 2017 priorities is to pilot Children’s HaH by extending our program to pediatric patients enrolled in a Medicaid plan. We are also considering partnering with our local VA to serve veterans.

3.1. Quality and Cost:

We describe how HaH-Plus will improve quality and lower cost compared to treatment in the hospital and how the PFFM will link payment to improved quality.

3.2. How care delivery is expected to improve:

◦ 3.2.a. Where and by how much will costs be reduced:

Based on our experience and a robust published evidence base, we expect that HaH-Plus will reduce costs through several mechanisms. First, substituting HaH-Plus for hospital care will reduce the cost of treating acute illness (by 19-34% for the acute episode), and improved transition services will reduce both readmissions and postacute ED visits (by 50% in our work) (Appendix I). Second, it will decrease complications (including delirium, falls, pressure ulcers, hospital-acquired infections, and care transitions with errors) that will in turn lower hospital days and other medical services needed to treat complications, as well as limit the spread of hospital-acquired conditions into the community (see 2.4). Third, by assessing some acutely ill patients before visiting the ED, HaH-Plus will reduce ED visits. Fourth, use of care protocols will reduce unnecessary supply-sensitive laboratory exams and procedures. Finally, the need for hospital beds and associated capital costs will be reduced.

3.3. Barriers to model's success and how they will be overcome:

As noted in section 2, the most significant barrier to HaH's success and scaling is the lack of payment models. Based on our experience in implementing HaH, we believe that achieving payment options in FFS Medicare would facilitate dissemination by addressing two additional interrelated barriers to scaling: 1) achieving a critical mass of patients, services, and staff to sustain a quality, robust, and cost efficient program; and 2) reaching a level of change in culture and practice where referral and caring for acutely ill patients at home is considered customary.

HaH-Plus would benefit from a critical mass of staff so that unanticipated admissions or urgent visits could be easily accommodated. Ideally, program size would be sufficient for geographic clustering of patients to reduce staff travel. Program size is also necessary to defray infrastructure costs (e.g., a call center, scheduling, triage, supply and vendor management, IT, claims processing, compliance, credentialing, human resources, accounting, and quality controls). Concomitantly, culture change can be challenging to achieve; it is easier and faster for the referring physician to admit a patient to the hospital. HaH requires determining patient eligibility and additional time to arrange services for the home. Overcoming these interdependent dual barriers requires a multifaceted approach which we have taken and propose for others:

- Maximizing intake hours by staggering staff hours and by developing policies (e.g., stocking our own medications) for services dependent on vendors with delivery limitations.
- Instituted HaH at Night where we recruit patients after hours and hold them in the ED or observation unit till the morning when home services can more readily be arranged. Expanding the range of services provided by HaH-Plus. In addition to the original HaH diagnoses, we have added observation at home, palliative care at home, and rehab at home. We will pilot Children's HaH and ambulatory surgery postoperative care at home.
- To engage with other payers, we found that having program variants and flexibility in payment model is needed (see 4.2.b). We expect to have contracts with 2 health plans in our market in 2017. We also expect to have an agreement for management services in place in 2017 that will facilitate contracting and claims processing with other payers.

3.4. Metrics used to assess performance:

Our model will make use of metrics to monitor operational performance, for quality improvement, and performance on selected outcomes metrics will be linked to payment. Quality

metrics have not been developed specifically for HaH. To measure the quality of the HaH-Plus care, we propose to use existing measures adapted for the home setting with modifications in data source and denominators because the episode is HaH with 30-day follow up and there is no actual index hospital episode. We have relevant experience doing this in our CMMI funded implementation of HaH. The proposed measures are below with details in Appendix B:

Category	Measure Name	Notes	Link to Payment
Process of Care	Measures of Care Plan	Adapted from NQF 0326	Target > 75%
Process of Care	Documentation of Current Medications in the Medical Record	Adapted from NQF 0419	Target >90%
Process of Care	Medication Reconciliation Post-Discharge	Adapted from NQF 0097	Target >90%
Beneficiary Experience	HCAHPS	Adapted from NQF 0166, but limited to 4 dimensions (communication with doctors, communication with nurses, communication about medications, and care transition) and 1 overall rating of care	Target score >75 th percentile of national HCAHPS performance for each of the 5 measures
Safety	Rate of combined adverse events (falls and pressure sores)	Adapted from NQF 0141 and NQF PS103 component of the NQF 0531	Target event rate <5%
Functional Outcomes	AM-PAC Inpatient Basic Mobility Short Form and Inpatient Daily Activity Short Form	Two validated 6-item assessments of physical function and dependence developed for the acute inpatient care setting	Collection on admission and completion of the 30-day post-acute episode

We propose that shared savings and repayment for losses be linked to achievement on the above metrics. Cost of care metrics are not included as they would be redundant with the cost of care benchmarks included in the shared savings consideration. We propose that each of the 10 metrics (3 processes, 5 HCAHPS, 1 safety, and 1 for submission of functional outcomes) be tied to 10% increments of potential savings or 5% increments of losses. For example, achieving all 10 of the quality targets would entitle an APM to 100% of potential savings up to the cap or liable for up to 50% of potential losses. Achieving none of the targets would entitle an APM to no savings or liable for 100% of losses up to the cap. Details are provided in appendix B.

We propose that the shared savings rates for Palliative Care at Home would exclude consideration of the beneficiary experience and adverse event quality metrics.

3.5. Innovative metrics (such as patient-reported outcome measures):

While many of the proposed metrics are existing measures used in hospital or on ambulatory settings, their use for a hospital episode in the home is new and innovative. In some cases, we have adapted the measures, data sources, and data collection methods for the home setting (e.g., HCAHPS has items about the hospital environment). Furthermore, we are proposing collecting information on functional outcomes as a prelude to later development of a quality target for this

patient-reported outcome.

3.6. Data from multiple sources for total cost of care, utilization, or quality metrics:

The proposed metrics combine data from the EHR, patient reports, and claims. Process measures rely on EHR entries. The patient-reported outcomes and beneficiary experience with care rely on patient reports. Rates of adverse outcomes rely on a combination of EHR, incident reports, and patient reports (e.g., of falls). Metrics on total cost of care will rely on claims, but also on EHR and administrative data (e.g., on LOS, escalations, readmissions, and ED use).

3.7. Capturing and sharing data from the EHRs and provision of timely feedback:

Quality improvement depends on timely feedback which is most feasible by capturing data from EHRs and other automated data. Thus, the most timely data for tracking performance will include process measures, LOS, utilization, escalation rates, and readmissions. These will be captured from EHR and other administrative data monthly and fed back to leadership and participating clinicians. Other measures that cannot be easily obtained from administrative data, such as those involving patient reports, will be reported and fed back quarterly. CMS may need to develop a mechanism, like a data registry, to receive any data it does not already capture.

3.8. Monitoring or auditing:

Monitoring of quality metrics will be important for measures linked to payment. The proposed process measures (Care Plan, Documentation of Current Medications in the Medical Record, and Medication Reconciliation Post-Discharge) linked to payment can be audited by reviewing the EHR. Similarly, adverse event reporting can be audited against the medical record, as well as by review of claims associated with these events. Patient reported outcomes and experiences with care can be collected by an outside party.

3.9. Statistical analyses to estimate impact on spending and quality of care:

Prior studies of HaH establish an evidence base on its effectiveness. A meta-analysis of 61 randomized trials found that HaH led to a 19% reduction in the risk of death, 25% reduction in readmissions, significant cost reductions, better patient satisfaction, and lower caregiver burden.¹³ Another meta-analysis found a 38% reduction in the risk of death, better patient satisfaction, and lower costs of care for HaH.¹⁴ In the U.S., HaH was developed at Hopkins and evaluated in 3 Medicare managed care plans and a VA medical center. Most patients chose to receive HaH care when it was offered. Patients experienced fewer complications, including 75% reduced risk of delirium, use of physical or chemical restraints, and sedative use. Functional outcomes were better. Patients and caregivers experienced higher satisfaction, caregivers experienced less stress, and costs were lower. Health care teams were highly satisfied with the care they provided.¹⁵

Interim findings from our own CMMI-funded work are consistent with prior studies and show that these services can be provided safely and effectively (see 2.2e).

4.1. Payment Methodology:

The proposed PFFM is grounded on a number of principles: a) providing the physicians who order the vast majority of these services with the means and incentives to control costs and

¹³ Caplan, GA, NS Sulaiman, DA Mangin, N. Aimonino Ricauda, AD Wilson, and L. Barclay. "A Meta-analysis of "hospital in the Home"." *The Medical Journal of Australia*, 5 Nov. 2012. Web. Dec. 2016.

¹⁴ Shepperd, S., H. Doll, R. M. Angus, M. J. Clarke, S. Iliffe, L. Kalra, N. A. Ricauda, V. Tibaldi, and A. D. Wilson. "Avoiding Hospital Admission through Provision of Hospital Care at Home: A Systematic Review and Meta-analysis of Individual Patient Data." *Canadian Medical Association Journal* 180.2 (2009): 175-82. Web. Dec. 2016.

¹⁵ Leff, Bruce, L. Burton, SL Mader, B. Naughton, J. Burl, SK Inouye, WB Greenough, III, S. Guido, C. Langston, KD Frick, D. Steinwachs, and JR Burton. "Hospital at Home: Feasibility and Outcomes of a Program To Provide Hospital-Level Care at Home for Acutely Ill Older Patients." *Annals of Internal Medicine* 143.11 (2005): 798. *PubMed*. Web. Dec. 2016.

account for quality; b) incentivizing patient-centered services in the most appropriate setting while disincentivizing high volume services with marginal effectiveness; c) avoiding cost shifting by formulating payment around an episode inclusive of the acute period and 30-days of transition services; d) controls on stunting on care by tying payment to performance on quality metrics; and e) preserving beneficiary choice.

The PFPM was designed to meet criteria for Advanced APMs. In the proposed PFPM, the APM entity will: 1) use Certified EHR Technology (CEHRT); 2) use quality measures comparable to those in the quality performance category under MIPS; and 3) bear risk for monetary losses of a more than nominal amount. The use of quality measures and CEHRT will be detailed in sections 3 and 11, respectively. In this section, we detail the payment methodology and how the APM entity will meet the nominal financial risk criterion.

4.2. Details on payment methodology:

◦ 4.2.a. How entities would be paid, amount of payments, and calculation methodology:

For beneficiaries meeting clinical criteria for receiving HaH-Plus, we propose an Advanced APM with 5 elements (see table in Appendix D). First, we propose review of all cases for need for hospitalization to guard against providing HaH services beyond what might be medically necessary. In our CMMI project, all cases have undergone independent review and met Milliman criteria for hospitalization. Second, we propose assigning a DRG on after the acute HaH phase. In our current demonstration, cases have been coded into as many as 50 different DRGs.

Third, we propose a new HaH payment to the APM entity set at 95% of the sum of the DRG payment and expected professional payments that would occurred if the patient had been hospitalized. Indirect medical education (IME), uncompensated care, and disproportionate share hospital (DSH) would be excluded from the HaH payment amount, but would continue to be paid to the participating hospital on a per-admission basis (including HaH-Plus episodes). The new payment will cover HaH-Plus core services during the acute and 30 day period of transition (beginning at discharge from acute episode). Appendix E lists these core HaH-Plus services and compares them to services currently included in a Part A DRG hospital bundle. Unlike the DRG payment to hospitals, the HaH DRG-like payment does not cover boarding and outpatient medications that the patient would already have at home. Outpatient medications are excluded because a) what is being taken at home is best determined during the initial home visit and filling prescriptions at that time would be an unnecessary delay; and b) new prescriptions would be redundant and potentially confusing to patients. Conversely, the HaH payment includes services that are not part of the inpatient DRG payment-attending physician services, community paramedicine, transport, and transition services. The HaH payment includes some services that could be billed separately to Medicare – namely any medications the beneficiary is not already taking, labs, and DME. Thus, the beneficiary would not be at risk for any Part B or D copays for these services. Likewise, traditional delivery times for labs, DME, and medications at home are not sufficiently timely. Other services furnished during the episode will be billed FFS. However, certain unrelated procedures and hospitalizations will be excluded from both the HaH-Plus and comparison expenditures using the DRG-specific exclusions list currently used in BPCI.¹⁶ If a HaH-Plus DRG is not in BPCI, we propose to map the DRG to the most clinically related BPCI DRG. Neither Transitional Care Management (TCM) nor Chronic Care Management (CCM) would be billed.

¹⁶ CMS. "Bundled Payments for Care Improvement Learning & Resources Area." *Bundled Payments for Care Improvement*. CMS, n.d. Web. Dec. 2016. <<https://innovation.cms.gov/initiatives/Bundled-Payments/learning-area.html>>.

We propose that any Medicare FFS beneficiary deductible for hospitalization remain in effect to create a similar financial incentive for the beneficiary. If the HaH-Plus stay escalated (i.e., required hospitalization in an inpatient facility during the acute HaH phase), the hospital would bill for the DRG, and CMS would count the beneficiary's deductible for the HaH-Plus payment as satisfying the Part A deductible for the benefit period. We propose that a partial HaH payment would replace the full HaH payment for a) episodes where continued observation is no longer needed after observation at home (those needing continued hospitalization would be converted to HaH and paid the full HaH payment) or b) episodes where the beneficiary requires an escalation of care to an inpatient facility during the acute phase. When a patient is escalated to an inpatient hospital, the hospital would bill the inpatient DRG. The partial HaH payment would initially be set at \$2,500 (approximating the cost of an observation stay to Medicare) and then pegged to 25% of the average HaH-Plus payment after the first year. The partial HaH payments would be included in the total costs of care, and episodes would be included in performance-based reconciliation.

Fourth, we propose that the HaH-Plus total Medicare spending per beneficiary for the HaH-Plus episode be compared to that for a weighted sample of FFS discharges from the region (likely CBSA) with matching DRGs. The

The comparison sample would be drawn to approximate the HaH-Plus patient sample. In our modeling, this was accomplished by limiting the comparison sample to Medicare FFS beneficiaries older than 18 who are continuously enrolled in Medicare Parts A and B throughout the hospital admission and 30 days post discharge and whose Medicare entitlement is not based on having end-stage renal disease. Additionally, comparison beneficiaries had to be admitted for one of the proposed MS-DRGs, with an admission that began in the emergency department. The modeling also excludes beneficiaries with length of stay less than one day or more than 8 days, beneficiaries with a hospital admission in the preceding 30 days, beneficiaries who are admitted after being transferred from another hospital, beneficiaries who were at a skilled nursing facility (SNF) at any time in the two days prior to admission, beneficiaries discharged to settings other than home, home health or SNF, beneficiaries with post-discharge SNF stays longer than 29 days, and beneficiaries who die within 30 days after discharge.

Fifth, the total spending in HaH-Plus episodes, inclusive of full and partial HaH payments, will be compared annually to the benchmark, less a 3% discount. If the APM entity's spending is less than the benchmark, the APM entity could earn a performance-based payment of up to 100% of the difference between the benchmark and the cost, up to a cap of 10% of the benchmark. If the APM entity's spending performance is worse, the APM entity would be liable up to 100% of the losses up to a cap of 10% of the benchmark. Depending on the number of quality metrics attained, shared savings or repayment would be pro-rated (see section 3.5). The level of shared savings could be modified for APM entities with more or less ability to bear financial risk.

Appendix G shows how this calculation would work for an individual episode based on analysis of 2015 CMS claims data for nationwide episodes that would be likely candidates for HaH-Plus. In the historical analysis, patients have average episode spending (admission + 30-days post-discharge) of \$13,133, with combined index inpatient DRG and professional payments of \$8,010. The benchmark would then be \$12,739 and the HaH payment would be \$7,585. The APM entity would be eligible to share in savings if total spending in the HaH-Plus episode, including the \$7,585 payment, is below \$12,739. The performance-based payment payable to the APM entity would be capped at \$1,313 (10% of the benchmark). Conversely, if the HaH-Plus

APM's acute episode plus 30-days of transition services total Medicare spend exceeded \$12,739, the APM entity would be at risk up to the cap of \$1,313.

◦ 4.2.b. Other payers and payment methodology:

It is important to have payment models that could be adapted for other payers to facilitate recruitment and achieve economies of scale. In our current work, we found that payers have substantial interest in the model; however, most have been interested in starting with the HaH acute portion alone without transition services and without trying to administer a shared savings program at this time. Thus, for other payers, we are considering variations from the proposed PFPM, including a negotiated discounted DRG for the HaH core services in the acute phase with or without the 30-day transition services and no shared savings component.

◦ 4.2.c. Sustaining the expected changes in care delivery over time:

Larger programs are likely to have significant benefits (e.g., more efficient recruitment, economies of scale, and improved outcomes) that will facilitate sustainment of the expected changes in care delivery. Although a HaH program could be developed with just Medicare Advantage and other payers, there is no other viable existing methodology of paying for such services under traditional Medicare. The proposed PFPM will enable the provision of this service for traditional Medicare and will, in turn, increase the size and enhance the robustness of the programs that could be offered to patients with other payers.

Over time, building such programs will create a platform that could support other related initiatives. For example, teams able to provide HaH-like services could also be used for postacute services in the home or to deliver postoperative services at home.

◦ 4.2.d. Targets for success and penalties for failure:

Shared savings will not accrue to the APM entity without meeting both financial benchmarks and quality metrics. Meeting the financial target, but failing to meet quality targets, will result in lost opportunity to share savings. The APM entity will be responsible for costs in excess of the financial benchmark (up to the 10% of benchmark), even if quality targets are attained.

◦ 4.2.e. Risk adjustment methodology:

To obtain a spending target for amount Medicare would have spent in the absence of the HaH-Plus program, we propose to select a comparison group from patients admitted the same calendar quarter to non-participating hospitals in the same region, likely CBSA, as each participating APM entity for the targeted DRGs. The comparison group would be weighted with respect to DRGs. If a broader geographic region than CBSA is required, it would be possible to utilize the *CMS Payment Standardization Methodology* to account for geographic variation in Medicare payment rates. CMS uses this approach in the Comprehensive Care for Joint Replacement Model and the Oncology Care Model. We would exclude patients with diagnoses (e.g., ESRD) that would likely exclude them from HaH-Plus eligibility. To further approximate the patients treated with HaH-Plus, the comparison group would be limited to the subset of patients: a) with a length of stay of eight days or less; and b) matched by HCC scores.

4.3. How payment methodology differs from current Medicare/CMMI models:

The proposed payment model is informed by the BPCI initiative launched in 2011. However, the proposed HaH-Plus bundled payment model differs from BPCI in several ways. First, our proposal includes specific CEHRT and quality provisions to meet the definition as an Advanced APM. Second, the proposed PFPM uses bundling to enable delivery of a HaH services that currently have no viable reimbursement mechanism as in 2.1. Third, whereas BPCI is applied to all patients in a family of MS-DRGs (i.e., to prevent favorable selection of less severely ill patients for bundled payments), providing HaH-Plus to all or even most patients in the targeted

DRGs would be medically inappropriate and would raise serious safety concerns because some patients may need acute services that can only be provided in the hospital. In the design of the proposed PFPM, we have tried to account for this by excluding certain categories of patients from the comparison group and the benchmark for spending.

4.4. Degree of financial risk borne by the entity and its physicians or other professionals:

For the proposed PFPM, risk is shared between the APM entity and CMS. CMS receives a 3% discount regardless of whether the APM entity generates savings or losses relative to the benchmark. The APM entity bears a marginal risk of 100%. The maximum potential payment that the APM entity could be required to pay is 10% of the benchmark, exceeding the nominal risk standard of 3% of the expenditures for which the APM entity is accountable for under the APM. How that risk is borne by individual physicians will depend on the compensation agreement that physicians have with the APM entity; however, it is reasonable to assume that the APM entity's financial performance will have financial consequences (e.g., salary withholds, reduced supplements, performance-related payments, etc.) for participating physicians and other eligible professionals. To prevent stinting on care, shared savings are tied to quality metrics. To prevent cost shifting from the acute to immediate post-acute period, the proposed bundle includes the acute period plus 30-days of transition services. Spending for 30 days after conclusion of the bundle will be reviewed to monitor possible cost shifting by postponing care. APM entities with excessive spending in the 30 days after the postacute transition period could be required to pay back a portion of the spending, as in BPCI.

4.5. Accuracy and consistency of identification/coding of diagnoses/conditions:

Our APM is based in part on DRG coding of the acute HaH episode that would otherwise have led to an actual hospital admission. The DRG coding will be performed by outside staff not otherwise part of the APM entity. We have had experience doing this in our CMMI project.

4.6. Clinical appropriateness of the payment unit:

We propose that the need for hospitalization be audited and confirmed using standardized criteria by staff not otherwise part of the APM entity. As part of our CMMI project, this has been done using Milliman Care Guidelines criteria.¹⁷ In that project, we found that all our HaH admissions met hospitalization criteria.

4.7. Accurately assigning claims for payment to particular episodes of care:

We propose that the acute HaH phase will be paid at 95% of the DRG and expected Part B billings to substitute for what would otherwise have been a Part A hospital stay and the primary attending Part B services. This is a departure from usual practice, and we propose that discharges for now be batched and submitted monthly for reimbursement. Also, services that would otherwise have been included in the Part A bill if a hospitalization occurred (e.g., observation services) would be suppressed.

4.8. Barriers necessitating new payment methodology:

◦ **4.8.a. Barriers in current payment that prevent or discourage the change in care delivery:**

As noted in 2.1., dissemination of HaH has been stymied by lack of a payment model. There is no mechanism in FFS Medicare to adequately reimburse for HaH services provided at home.

◦ **4.8.b. Barriers in state or federal laws or regulations:**

Licensing, statute, and regulations are typically organized by discipline and/or setting. HaH-Plus, by contrast, is interdisciplinary and the home is neither licensed nor regulated as a health facility. HaH-Plus might appear to be a natural expansion of home care services but policies and entrenched practices suited for the non-emergent and chronic nature of home care do not adapt

¹⁷ MCG Health." *MCG Health, LLC*. <<https://www.mcg.com/>>.

easily to the needs of acutely-ill patients in HaH-Plus. For example, HaH-Plus patients may not be *chronically* homebound (i.e., for Medicare skilled home health), and delivery of services to the home is often not available urgently or for non-chronic duration (e.g., oxygen delivered within hours and for less than 30 days). On the other hand, HaH-Plus is not easily classified as a hospital episode as current statute and regulations may not accommodate the delivery of hospital services when the place of service is the home (e.g., our hospital license does not provide for nursing services in the home). A physician-focused payment model circumvents this problem.

In our current implementation, we found that barriers can be overcome for policies (e.g., quality measures that need to be adapted for a hospital episode at home) not rooted in regulation or statute. A number of other *potential* barriers exist in federal laws or regulations and might require waivers, but CMS may determine that some of these statutes and regulations do not apply or can be addressed through other mechanisms, including:

- a) Under current laws, providers are restricted in their ability to receive financial rewards from high quality and efficient delivery of health services. Waivers have been granted for Medicare Shared Savings, and we ask that such waivers also be available for this program.
 - b) Home care issues: To enable the HaH intervention, we request waiver if needed of the following requirements: i) homebound requirement for HaH participants during the acute phase of HaH care (the homebound requirement would remain for postacute services); ii) OASIS assessment requirement at the start and conclusion of the acute phase of HaH care.
- 4.8.c. Will the proposed model have an impact if regulatory barriers are not addressed?:

Over the last two years, we have had experience in addressing these barriers as part of our CMMI project, and we believe that these barriers can be surmounted.

5.1. Value over Volume:

The proposal is anticipated to provide new incentives to providers to deliver high-value care.

5.2. Financial incentives to encourage delivery of high-value health care:

The APM entity can choose to link physician salary to performance on quality metrics, reduction in ED visits and readmissions. This contrasts with current incentives to generate more RVUs and relative lack of direct incentives to reduce readmissions. To safeguard patient safety, we purposely propose neutral incentives around escalation rates to the inpatient setting.

◦ 5.2.a. How incentives will influence physician or other eligible professionals' behavior:

These incentives will influence clinical behaviors in that, having a financial incentive to improve quality metrics and reduce readmissions, physicians will be invested to engage in activities that could improve quality and patient experience but were previously poorly reimbursed.. These activities include medication reconciliation at home, holistic assessment of the social situation, video visits, and proactive and expanded availability to patients and families.

◦ 5.2.b. Prior experience with these incentives and effects (both salutary and adverse):

HaH implementations in other health systems have employed quality-based financial incentives to incentivize provider behaviors. Presbyterian Health Systems implemented HaH in 2008 in Medicare Advantage. Approximately 8% of provider compensation is tied to quality metrics. The approach was successful because it focused on a select set of quality indicators well-linked to important HaH outcomes. Similar approaches could be adopted by APM entities.

5.3. Non-Financial incentives to promote delivery of high-value care:

Several forms of non-financial incentives are inherent in the HaH-Plus design. There is a substantial body of literature that demonstrates that health care providers are strongly guided by their professional conscience, sense of responsibility and ownership for patient care, and ability to satisfy that sense of professionalism. These incentives are applicable with HaH-Plus.

◦ 5.3.a. How these non-financial incentives influence practitioner behavior:

HaH-Plus creates direct clinical responsibility and ability to impact the care and outcomes for patients over their episode of illness. By creating clinical interdisciplinary teams to deliver care for an episode illness, the model removes the usual, mostly ineffective, work-arounds. HaH-Plus further advances professionalism by promoting health equity since many of the patients served are vulnerable, disabled, and homebound. HaH-Plus promotes real-time quality improvement by reviewing all cases for safety and quality issues and implementing changes to improve care delivery. By creating an efficient clinical system where providers can practice to the top of their license, they are incentivized and enabled to provide high-quality patient-centered care.

◦ 5.3.b. Prior experience with these incentives and effects (both salutary and adverse):

In multiple HaH implementations, these non-financial incentives have served to create highly functional HaH care delivery teams of mission-driven medical professionals. At Presbyterian Health Systems, readmission rates for HaH patients are half of that for similar patients.¹⁸

6.1. Flexibility:

6.2. Model adaptation to accommodate differences in clinical settings and patients:

There are two interrelated barriers that need to be overcome to scale HaH-Plus (see 3.3): 1) achieving a critical mass of patients, services, and staff; and 2) changing culture to the point where referral and caring for acutely ill patients at home is considered customary. It needs to be easy for physicians to refer patients, patients must be willing to receive care at home, there must be clinical capacity to take care of these patients, and payers must be willing to reimburse for the services. Adaptability of the model to accommodate different clinical settings and patients is key to being able to meet the needs of diverse professionals, patients, and payers.

The model can be adapted to use different mixes of physician specialties, NPs, and other professionals. Because these cases primarily substitute for medical admissions, the primary physician specialties involved are internal medicine, family medicine, pediatrics, and emergency medicine. Within these specialties, the model could be adapted for those with specialty expertise in geriatrics, home care, palliative care, or hospital medicine. In our CMMI project, we have also used NPs in flexible roles functioning independently or more closely supervised. To accommodate scheduling of new patients and urgent visits, our physicians or NPs may perform infusion tasks (customarily assigned to RNs) if they happen to be in the home. The model has provisions for physicians not participating in the APM entity but who may be involved in the patient's care as consultants to bill separately. For beneficiaries, the model retains the choice of being hospitalized or receiving services at home. We have adapted the model to facilitate care for patients speaking Spanish. Additionally, we are piloting an adaptation for children (for other payers) as patients and that necessitates having clinical staff with pediatric competencies.

Our model is also adaptable to the APM entity's organizational needs and capabilities. We view HaH as the cornerstone of a home and community-based acute care service line that could provide other services in the home depending on an organization's needs, be it palliative care, rehabilitation, or postoperative care (see 4.2.c). HaH-Plus is designed so that APM entities could use it whether or not it operates a hospital or home care agency. Section 4.2.b discusses how the model incorporates different payment approaches to accommodate different payers.

6.3. Model adaptation to account for changing technology:

HaH-Plus is suited for testing the feasibility and value of new technologies that might add value to the care of patients at home. We are piloting the use of medication-filled elastomeric

¹⁸ Cryer, L., S. B. Shannon, M. Van Amsterdam, and B. Leff. "Costs For 'Hospital At Home' Patients Were 19 Percent Lower, With Equal Or Better Outcomes Compared To Similar Inpatients." *Health Affairs* 31.6 (2012): 1237-243. Web.

infusion balls for patients who require more than once daily (including continuous) or more than a day or two of infusion. We have also made extensive use of HIPAA-compliant physician video home visits by iPhone or iPad enabled by nursing or therapy staff who may be in the home for other skilled services. Patients have been highly satisfied with these visits, and physicians have reported improved communications and workflow by being able to interact with the patient and staff directly while the staff are still in the home. We have piloted and used other technologies for testing at home (including Bluetooth EKG and full EHR access on iPad).

6.4. Practitioners' operational burdens and reporting requirements in the model:

The main operational adaptation practitioners will need to make is to providing care in the home. To some extent, practitioners will select for this much as they may select office practice or hospital medicine based on their predilections. For some with interests in home care, additional adaptation may be needed to working with teams that are not always in the same place. We expect that the reporting burden would be no greater or different from that involved in other forms of practice, and use of automated data will reduce that burden.

6.5. Preparing and building the infrastructure to implement the proposed model:

Based on the interest expressed by many groups such as the Advisory Board in our work, we believe that the market will respond with consulting services and technical assistance to assist model participants if this proposal is successful. We have drafted an implementation manual for HaH based on our experience and are actively engaged in providing advice to other groups.

7.1. Ability to be Evaluated:

The proposed PFPM will have evaluable goals for quality, cost, and patient experience.

7.2. Evaluating the impact of the PFPM on metrics included in the proposed model:

In our HaH-Plus demonstration, we have successfully collected data on the quality of care, cost, and patient and family experience measures proposed in 3.4. Data sources include claims, program administrative records, and the EHR. We propose similar procedures for evaluation of the PFPM with quarterly retrieval of administrative, EHR and claims data. Surveys of patients and caregivers to assess their experience will be done by mailed questionnaires.

7.3. Evaluable goals at various levels (e.g., population, providers, physicians, etc.):

Evaluable goals of the model detailed in Section 3.4 are relevant at population, provider entity, and individual physician level. It should be feasible, for example, for an ACO to assess quality, utilization, and costs for subgroups of patients similar to those treated in HaH-Plus (e.g., ACO patients with CHF). For the provider entity, implementation costs, ease of implementation, and how HaH-Plus influences market position are relevant. For providers, practitioner satisfaction and engagement with the quality of care provided are evaluable goals.

7.4. Evaluations of the proposed model underway:

Evaluations of the HaH model have been conducted that share many of the features of HaH-Plus. HaH was implemented at Presbyterian Health Systems (NM) in Medicare Advantage, and they have reported better clinical outcomes (e.g., lower lengths of stay and mortality, better patient and family experience) and 19% lower costs.¹⁹ HaH is also being evaluated in multiple VA medical centers and several Medicare Advantage plans, including Kaiser Permanente. See section 7.2 for preliminary data from ongoing evaluation of Mount Sinai's HaH-Plus.

¹⁹ Cryer, L., S. B. Shannon, M. Van Amsterdam, and B. Leff. "Costs For 'Hospital At Home' Patients Were 19 Percent Lower, With Equal Or Better Outcomes Compared To Similar Inpatients." *Health Affairs* 31.6 (2012): 1237-243. Web.

7.5. Other questions the evaluation should focus on and use of qualitative methods:

We have employed qualitative methods (e.g., focus groups and stakeholder interviews) in our ongoing evaluation of HaH-Plus to examine effective policies and procedures, quality and safety processes, staff training and competency, and technology integration. Also, to go beyond the modified HCAHPS, patient-caregiver dyadic interviews of HaH-Plus participants may provide insight and assistance in ensuring that a patient and family centered approach is provided.

8.1. Integration and Care Coordination:

HaH-Plus is an APM with an integrated team of providers. By the fact that all clinical team members provide care in the patient's home, a more detailed, thorough care plan can be developed which will enhance care integration and improve care coordination.

8.2. Types of physicians, non-physicians, and other eligible professionals included:

The proposed model accommodates varying mixes of physician specialties as well as disciplines practicing within scope of practice (see 2.2.a for full listing and description). In assembling a team, we have found it useful to have staff with selected overlapping core competencies that include phlebotomy, intravenous lines and infusion so that indicated procedures could be done by whoever is in the home rather than necessitating a separate visit.

8.3. Integration and care coordination among practitioners and across settings:

Currently home care has involved fairly peripheral MD involvement and acute inpatient care has involved home care peripherally. This APM changes all this. During the HaH acute phase all HaH-Plus staff are involved providing care in the home daily. On transfer to the HaH-Plus 30-days of transition services, the same providers deliver the care and begin the transition to primary care. The care plan is developed and informed by what the providers see as current and possible issues in the home. The team is directly involved with any postacute home care episode and is often able to provide critical insights to the primary care clinician about the home situation.

8.4. Changes in workforce requirements compared to traditional arrangements:

We do not anticipate significant changes in number/types of the professional workforce. Rather, we anticipate a need for stronger core competencies in home care by professionals.

8.5. Coordination with care team members that are not financially accountable:

In our HaH-Plus, we have worked with outside parties that are not financially accountable on issues ranging from compliance, human resource, service timeliness, quality, and volume. We are considering a competitive process for outside partners with clear articulation of expectations around these issues. Contracting agreements under an APM may address sharing savings/losses proportionate to the extent that critical core processes involve outside parties.

9.1. Patient Choice:

Patients and their families are offered the option of HaH-Plus assuming they are clinically appropriate and meet home and patient safety criteria. If they do not want to be part of HaH, they are admitted to the traditional hospital instead. As noted earlier, we have also had patients and family members who request escalation to the hospital after the start of the episode, and these requests are always honored if clinically indicated. Thus, HaH-Plus preserves patient choice.

9.2. Choice and accommodating differences in patients, conditions, and preferences:

Potential patients are screened for clinical appropriateness but also for safety, as well social and physical appropriateness of receiving care at home (e.g., access to a phone, electricity, running water, refrigerator; space for equipment; no recreational/illicit drugs, firearms, or bedbugs in the home; no smoking if oxygen is used). Apart from these considerations, HaH-Plus can accommodate various needs, conditions, and preferences. Patients are given a choice on receiving HaH and asked about comfort with having health care professionals visiting the home.

For patients with cognitive impairment, the surrogate or health care proxy is approached for consent. Our brochures, materials and consent form are available in English and Spanish.

9.3. Disparities by race, ethnicity, gender, disability, and geography:

HaH-Plus model will disproportionately serve and impact underserved populations. Our average patient is 77, 29% have incomes below the 100% federal poverty level, over 1/3 live alone, 3/4 have limitations in one or more IADLs, and 2/3 report fair/poor health. Thus, the program can have an impact on quality of care and outcomes for patients with multiple chronic conditions and need for long-term support. Moreover, HaH-Plus addresses disparities by providing culturally and ethnically sensitive health care that occurs naturally in a patient's home.

9.4. Expanding the demographic, clinical, or geographic diversity of CMS APMs:

The patients served by HaH-Plus tend to be of advanced age and have significant disability and comorbidity (see 9.3). They are dissimilar from patients served in payment models geared more to elective surgery or to single clinical conditions. The development of a payment model that can be used in a variety of settings and by other providers nationally will also ultimately expand the demographic and geographic diversity of patients served by HaH-Plus.

10.1. Patient Safety:

HaH-Plus improves transitions between providers and delivery sites by delivering both acute and postacute care and linking to primary care. The program aims to reduce the complications observed when patients are admitted to regular hospitals, and transitions are minimized along with miscommunication and errors. To monitor safety, programs should track escalation rates to inpatient care, monitor safety and quality metrics (see 10.2) and readmissions. Adverse events should be reviewed regularly to refine protocols and improve the quality of the HaH program.

10.2. Preventing patient harm: quality metrics, independent review of adverse events:

HaH has been shown to reduce hospital-related complications. In addition to the metrics in 3.4, we propose that HaH-Plus programs track some, if not most, of the following metrics:

- a) Adverse Events: Delirium, C Diff Colitis, nosocomial infections, DVT, PE, foley catheters, pressure ulcers, falls, adverse drug reactions, receipt of sedative/hypnotic medication, use of chemical/physical restraints, transfer to intensive care, intubation.
- b) Outcomes: Medication adherence, appointments scheduled at discharge, appointments missed post discharge, deaths.
- c) Process Measures of Quality: Pressure ulcer prevention protocol use, influenza vaccination, antibiotic selection (in pneumonia, cellulitis, and UTI), ACE I/ARB and beta blockers (CHF), Systemic steroids and bronchodilator use (COPD).
- d) Clinical Process: PCP appointment within 7 days of discharge, phone call within 48 hours of discharge, transfer of clinical summary to primary care.
- e) Program Process: Time to evaluation by HaH team, time to first RN visit at home, time to first MD visit at home, time to medication administration at home.

All adverse events, deaths, and escalations should be reported within 24 hours for review by a medical director and an independent physician (e.g., a medical center director of quality).

10.3. Ensuring the provision of necessary care and monitoring for stinting of care:

Savings in the HaH model are generated not by eliminating any portion of patient care, but instead by moving the care into a patient environment that has been shown to decrease hospital-related complications. Our model has several features to ensure necessary care and safeguard against stinting on care. First, we propose that the neither the APM entity nonparticipating professionals be penalized for escalation of care to the hospital to avoid a financial disincentive to providing necessary care. A partial HaH payment is proposed so that payment is not foregone,

and the performance-based payment is retained to ensure continuity of the HaH-Plus team into the escalated hospital event and into the 30 day period. Second, HaH-Plus follows patients for the postacute 30 day period to prevent lapses in the care plan. To prevent cost shifting from the acute to immediate postacute period, a bundle is proposed inclusive of the acute episode and 30-days of transition services. Third, spending for the 30 days after conclusion of the bundle will be reviewed to monitor postponement of care and cost shifting until after the episode ends.

10.4. Ensuring benefits, monitoring and adjustments for unintended behaviors:

Our proposal safeguards against favorable selection or “cherry picking.” In order to cherry pick, programs would need to identify “favorable” cases within a DRG that has not yet been assigned. Further, 97% of the cases in our program have principal diagnoses in MS-DRGs “trifurcated” into 3 levels of severity thereby limiting the opportunity to favorably select within a principal diagnosis. Of note, 38% of cases are assigned to DRGs with CCs or MCCs suggesting that more complex cases are not being excluded. Nevertheless, we plan certification of APM entities (see 2.2.a) and independent audits of records to ensure that patients meet appropriateness criteria for inpatient stay. In Appendix F, we describe an additional monitoring measure that could be used by CMS to gauge the extent of selection.

11.1. Health Information Technology:

Our recent work has acquainted us with the advantages and limitations of current EHRs for HaH-Plus. Most EHRs have been designed for the documentation of inpatient or outpatient care and around billable events. Many are less suited for situations where the documentation, communication, and management of an episode of care may span different phases of care (acute, postacute, and primary) and different settings (hospital, ambulatory, home care, and community).

In our program’s initial HaH-Plus EHR, we found that it was not easy to document encounters without face to face contact with a physician or NP, including televideo visits. This documentation had to be accomplished by a combination of telephone or ambulatory encounters. Tracking patients dynamically through their phases of care and enabling sign out was not readily done. Off-line functionality, an essential function for HaH-Plus, was not possible. Incorporating information with and from vendors was not seamless. EHRs can group encounters together for an inpatient episode, but doing so was not readily done for an episode of care that spanned pre-admission, acute, post-acute and primary care. For example, information sharing (e.g., vital signs) between encounters was limited unless all RN, MD and NP encounters were documented under a single encounter even though the work may have spanned several separate encounters.

We updated our EHR with lessons learned. Version 2.0 includes tabs showing patients by acute and postacute phases, visits linked within an episode of care, signout functionality to facilitate coverage, and customized medication administration records and order sets (e.g., an infusion order translates into 3 linked HaH orders: a medication request to the pharmacy, an order for reconstitution, and an order to infuse). To enhance the consistency and ease of handing off information to referring and primary care clinicians, we have developed transition protocols (e.g., what should be handled by the PCP and the the HaH-Plus team, respectively).

Data Sharing: Our organization’s EHR allows us to share data with other users who access our system. However, we remain dependent on sharing information by phone, fax or email with partners who do not have access. We went to considerable effort to get our home care agency partner access to our EHR. In the end, however, this was not productive due to the need to double chart into the home care agency’s EHR and because covering or new home care staff could not be given access easily. We have considered making greater use of the regional health information exchange (HIE) to upload treatment plans, HaH-Plus discharge summaries, and care

plans into the secure HIE cloud, to share with providers and patients. However, we recognize that there is much more to be done to share information seamlessly with partners. Patients can access their HaH-Plus labs through the Mychart secure web portal.

11.2. Protecting patients' privacy and access to personal health information (PHI):

Our EHR and Mychart are secure and audited. Only providers who are credentialed and authorized have access to our EHR. Auditing can be done to ensure that only staff who need to access a chart are accessing it. Partners who are not credentialed and authorized do not have access to the EHR leading to some of the data sharing issues discussed earlier.

11.3. Transparency on cost and quality of care to patients and other stakeholders:

Our use of the EHR is an essential element in the derivation of metrics by which to track quality, utilization, and ultimately, costs. These metrics enable quality improvement activities and are linked to payment and eligibility for shared savings (see 3.4 and 4.2.a). Thus, health information technology is a key element in our efforts for transparency in costs and quality.

11.4. Interoperability of electronic health records to guide decision-making:

Improved interoperability is a goal since HaH-Plus operates largely outside of the hospital and having all partners communicating on a common platform would be ideal. From our experience given present interoperability, we believe that workable mechanisms for sharing data can be implemented that balance clinical needs with data security and privacy concerns.

11.5. IT innovations to improve outcomes, consumer experience, or care delivery:

As noted earlier, we have prioritized changes to our EHR to enable communication and documentation that is less focused on "billable" encounters and more centered around patients. This form of IT innovation can have a major impact on outcomes, the consumer experience and efficiency. Improved tracking of pending and outstanding items may reduce errors. Many "nonbillable" activities (e.g., communication between team members) are essential to keep patients out of the hospital. One such innovation is video visits using VSEE, a HIPAA compliant app we use to improve communication and connectivity with patients and family. Apart from the EHR, we have also used other new approaches to improve care. For example, we have used Uber delivery to get supplies to the home. We have used a Life360 app to track providers in the field to assist with scheduling visits to accommodate urgent situations or new patients.

11.6. Flexibility and choices to meet needs and leverage existing technology assets:

HaH-Plus care is sufficiently complex that we believe that use of a common EHR by most participants is important. Having said that, there is nothing unique to the EHR product we are using that would limit an APM entity to that specific product. Clinicians would be able to leverage and use existing technology. Additionally, although the HaH-Plus team should be on a common EHR platform, it is possible to accommodate referring providers and consultants using other EHR products by data sharing as noted above. In our current work, we have worked with hospitals using other EHRs. Data sharing is more involved in these circumstances but feasible.

12.1 Supplemental Information:

Please see the appendices for additional detail on MACT program operations, the proposed payment model and supporting financial analysis, and letters of support.

Appendices Table of Contents

Appendix A: <u>DRGs of Patients Treated in Mount Sinai MACT HaH Program to Date</u>	<i>Page 22</i>
Appendix B: <u>Proposed Metrics to Assess Model Performance</u>	<i>Page 23</i>
Appendix C: <u>The Composition of a Typical Core HaH-Plus Team</u>	<i>Page 25</i>
Appendix D: <u>Key Elements of the Advanced APM</u>	<i>Page 26</i>
Appendix E: <u>Core HaH-Plus Services Indexed to DRG Payment versus Traditional DRG Services in Hospitals</u>	<i>Page 28</i>
Appendix F: <u>Additional Monitoring Measure to Ensure “Cherry Picking” is Avoided</u>	<i>Page 29</i>
Appendix G: <u>Illustrative Example of the HaH-Plus APM Payment</u>	<i>Page 30</i>
Appendix H: <u>MACT Accreditation Checklist for PTAC</u>	<i>Page 31</i>
Appendix I: <u>Milliman Analyses</u>	<i>Page 34</i>
Appendix J: <u>Letters of Support</u>	<i>Page 48</i>

Appendix A: DRGs of Patients Treated in Mount Sinai MACT HaH Program to Date

Patients treated in our program would have been assigned to date to close to 50 DRGs:

Illness	DRGs
Respiratory Infections	177, 178, 179
COPD	190, 191, 192
Simple Pneumonia	193, 194, 195
Pulmonary Embolism	176
Respiratory Signs & Symptoms	204, 206
Pancreas Disorders (except malignancy)	438, 439, 440
Bronchitis/Asthma	202, 203
Heart Failure & Shock	291, 292, 293
Peripheral Vascular Disorders	299, 300, 301
Pulmonary Edema	189
Major GI Disorders	371
Renal Failure	683, 684
Cellulitis	602, 603
Diabetes	637, 638, 639
Kidney & Urinary Tract Infections	689, 690, 698, 699
Hypertension	305
Esophagitis & Other Digestive Diagnoses	392, 393, 394, 395
Fever or Viral Illness	864, 866, 948

Appendix B: Proposed Metrics to Assess Model Performance

Processes of care

- Measures of Care Plan (adapted from NQF 0326, percentage of patients aged 65 years and older who have an advance care plan or surrogate decision maker documented in the medical record or documentation in the medical record that an advance care plan was discussed but the patient did not wish or was not able to name a surrogate decision maker or provide an advance care plan),
- Documentation of Current Medications in the Medical Record (adapted from NQF 0419, percentage of specified visits for patients aged 18 years and older for which the eligible professional attests to documenting a list of current medications to the best of his/her knowledge and ability. This list must include ALL prescriptions, over-the-counters, herbals, vitamin/mineral/dietary [nutritional] supplements AND must contain the medications' name, dosage, frequency and route),
- Medication Reconciliation Post-Discharge (adapted from NQF 0097, percentage of patients aged 65 years and older discharged who had a reconciliation of the discharge medications with the current medication list in the medical record documented).

Patient-reported Outcomes

- Beneficiary experience of care will be measured with an adapted version of the Hospital Consumers Assessment of Healthcare Providers and Systems (HCAHPS) (adapted from NQF 0166, a 32-item survey instrument that produces 11 measures. We have adapted 5 measures from the HCAHPS that are most applicable to care delivery in the home and most appropriate to the patients treated in the program. These include communication with doctors (3 questions), communication with nurses (3 questions), communication about medications (3 questions), care transitions (3 questions), and overall rating of the care experience (1 question). The remaining measures were excluded for the following reasons: cleanliness and quietness of hospital environment (not applicable); responsiveness of hospital staff (not applicable, pertains to support by staff with transfers to bathroom or using bedpan); pain management (applicable only to a subset of patients [31.8% in HaH-Plus]); discharge information (not applicable, pertains to activities occurring at time of physically leaving the hospital). We propose using the HCAHPS scoring methodology described for the Hospital Value Based Purchasing (VBP) program, which applies a patient mix adjustment for the top-box scores of each item in the multi-item and single item measures.²⁰

As the target for incentive payment, we selected scores for each of the 5 measures at or above the national 75th percentile.²¹ In the Hospital VBP program, the contribution of the HCAHPS domain scores to the payment is determined by the provider's score relative to both the achievement threshold (50th percentile) and the Benchmark (90th percentile). Thus, the provider in the Hospital VBP program is credited for achieving scores above the threshold. We considered the 75th percentile a high but achievable level of performance for HaH Plus.

²⁰ http://www.hcahpsonline.org/files/December_2012_PMA_Web_Document_09-12-12.pdf

²¹ http://www.hcahpsonline.org/Files/April_2017_%20Summary%20Analyses_Pctls.pdf

Other Outcomes

- Functional outcomes will be measured using the AM-PAC Inpatient Basic Mobility Short Form and Inpatient Daily Activity Short Form. These two 6-item assessments are proxy measures of function designed for the acute inpatient care setting. The Inpatient Basic Mobility Short Form assesses the level of difficulty the patient has moving in bed or chair and how much help is needed with mobility tasks. The Inpatient Daily Activity Short Form assesses the level of support the patient requires for 6 activities of daily living (clothing upper and lower body, bathing, toileting, personal grooming, and eating). The two scales have demonstrated validity compared with the Functional Independence Measure (FIM) (basic mobility, $r=0.65$; daily activity, $r=0.69$) and internal consistency of 0.96 and 0.91, respectively. Providers will be credited if they report AM-PAC data from both the date of HaH admission and the date of discharge from the 30-day post-acute care episode.
- Adverse events will be measured as the rate of combined adverse events (falls and pressure sores) from related NQF measures (NQF 0141 on documented falls, with or without injury, experienced by patients, and the NQF PS103 component of the NQF 0531 measure on discharges) among cases meeting the inclusion and exclusion rules for the denominator, with any secondary diagnosis codes for pressure ulcer and any secondary diagnosis codes for pressure ulcer stage III or IV (or unstageable).
- Cost of care will be measured by summing costs for all Medicare Part A and B services provided to HaH-Plus patients. Cost data will be obtained from Medicare and will include the proposed APM payment. Costs will reflect all elements included in the Total Cost of Care Population-based per member per month index from the National Quality Forum and the total Medicare Part A and B Cost Calculations from CMS. Because claims lag in timeliness, we will also measure intermediary indicators of the cost of care, including length of stay, rates of hospital escalation, ED visits, and the All-Cause Hospital Readmission Measure 1789/458.

Linking Performance on Metrics to Payment

The following table details the linkage of performance on metrics to shared savings and repayment.

Number of Quality Metric Targets Achieved	Shared Savings Rate	Repayment Rate
0	0%	100%
1	10%	95%
2	20%	90%
3	30%	85%
4	40%	80%
5	50%	75%
6	60%	70%
7	70%	65%
8	80%	60%
9	90%	55%
10	100%	50%

Appendix C: The Composition of a Typical Core HaH-Plus Team

- MD: initial admission visits, some follow-up visits, supervision of NP visits, some post-acute care visits, direction of care plan and dispositions
- NP: follow-up visits; some post-acute care visits
- RN: initial patient visit, daily to twice daily follow-up visits, clinical coordination
- SW: care coordination and transitional care management, patient/caregiver support and education, discharge planning
- HHA: placed with selected patients who also require home health aide hours
- AA: coordination of all incoming calls, daily visit scheduling, vendor orders/processes
- Physical Therapist/Occupational Therapist/Speech Therapist: provision of appropriate therapy to maintain function during the hospitalization

Appendix D: Key Elements of the Advanced APM

Key Elements of the Advanced APM	Rationale	Supporting Experience
1. Certification of all cases for need for hospitalization	To prevent overuse of HaH services in cases where it might not be medically necessary	In our current CMMI experience, 100% of the cases have met Milliman criteria for acute hospitalization
2. Assignment of a DRG for all cases upon completion of HaH acute phase but suppression of the inpatient Part A Payment	To set what Medicare would have paid the hospital (Part A only) if the patient had been hospitalized	In our current experience, cases have been coded for as many as 50 different medical DRGs
3. A new HaH DRG-like payment (first part of the proposed APM) set at 95% of DRG and expected professional part B billings to cover HaH-Plus core services (including HaH attending physician Part B services) during the acute and 30 day period of transition services	No current payment exists for HaH-Plus core acute and 30 day transition services; the APM entity would be paid an HaH payment pegged to 95% of the Part A and B cost to Medicare; the new HaH payment would cover both Part A costs of hospitalization and Part B primary attending physician services provided as core HaH-Plus services and no separate fee-for-service charge would be submitted	Previous US experience shows that HaH reduces costs 19-34% relative to inpatient hospitalization; our current experience confirms savings in that range with the amount varying depending on program volume and economies of scale
4. Retrospective comparison of total acute episode plus 30-days of transition services Medicare spend for patients in the PFPM compared to the regional average 30-day spend for a sample of FFS discharges from the region with matching DRGs	To compare the HaH-Plus total Medicare spending per beneficiary for the acute episode plus 30-days of transition services to that of comparable patients who were hospitalized	In our current experience, HaH-Plus transition services have decreased 30-day emergency department use and readmissions
5. A HaH performance-based payment to the APM entity or to CMS in the case of losses (second part of proposed APM) based on Medicare savings and losses for performance compared to the benchmark with savings and losses capped at 10% of the benchmark assuming quality targets are also attained	To incorporate quality and financial performance in the APM, shared savings are tied to quality and total spending targets. If there are savings, Medicare is entitled to the first 3% and the full savings beyond a cap set at 10% of the benchmark; the APM entity bears financial risk up to 10% of the benchmark	Our current experience has demonstrated that HaH can be implemented safely with improved patient satisfaction, reduced complications and reduced costs (see section 2.2.e).

	(i.e., in excess of the nominal risk standard of 3% of expected expenditures for which the APM entity would be responsible over the 30-day episode)	
--	---	--

Appendix E: Core HaH-Plus Services Indexed to DRG Payment versus Traditional DRG Services in Hospitals

Core HaH-Plus services indexed to DRG Payment*	Traditional DRG services in hospital
Hospital Bed (if needed)	Hospital Bed
--	Board
Emergency Department evaluation, if any	Emergency Department evaluation, if any
Nursing	Nursing
Social work	Social work
Physical, occupational, speech therapy	Physical, occupational, speech therapy
Medications	Medications
Intravenous fluids	Intravenous fluids
Medical supplies	Medical supplies
Radiology (except for professional fees)	Radiology (except for professional fees)
Phlebotomy and labs	Phlebotomy and labs
Durable medical equipment	Durable medical equipment
Medications for acute illness	Medications for acute illness
--	Chronic outpatient medications continued during hospital stay
Community paramedicine visits	--
Professional fees (primary attending & NP)	--
Transport home	--
30-days of transition services	--
Not included in either HaH payment or DRG bundle and billed FFS:	
<ul style="list-style-type: none"> • Professional fees for inpatient consultants • Postacute radiology or laboratory • Postacute skilled nursing, outpatient, or home health services. • Postacute emergency department services or readmissions 	

* HaH payment is indexed to DRG payment. It includes both attending provider fees and 30 days of post-discharge follow up care. It does not include board. Any services beyond the scope of home services (including CT scans, cardiac catheterization, MRI, radiation therapy, angiography, lymphatic, venous and related procedures, or surgery or related procedures) would be billed separately from the HaH payment.

Appendix F: Additional Monitoring Measure to Ensure “Cherry Picking” is Avoided

In order to monitor for “cherry picking,” CMS could track the following ratio:

$$\frac{HaH \text{ Plus Episodes} + HaH \text{ Observation Episodes} + IP \text{ Admits} + Obs \text{ Stays}}{Total \text{ ED Visits}}$$

Against the historical ratio of

$$\frac{IP \text{ Admits} + Obs \text{ Stays}}{Total \text{ ED Visits}}$$

The numerators in both parts of the above ratio would be defined as IP admits and Obs stays starting with an ED visit.

Appendix G: Illustrative Example of the HaH-Plus APM Payment

As an illustrative example based on analysis of 2015 CMS claims data, we estimate that a typical comparison hospitalized patient would have total episode spending of \$13,133, with the index inpatient DRG and professional payments accounting for \$8,010 of that amount. The HaH payment in this example would be \$7,585 (approximately 95% of the DRG plus inpatient professional payments), and the benchmark would be \$12,739 (97% of the comparison spend). The APM entity would be eligible for the performance-based payment if the HaH-Plus APM's episode spending is below \$12,739. Thus, shared savings would begin only after Medicare had already saved 3%. The performance-based payment payable to the APM entity would be capped at \$1,313 (10% of the benchmark), which would be reached if actual expenditures were less than \$11,426, assuming the APM entity achieved all of its quality performance metrics.

Hospital at Home Alternative Payment Model	
Initial Inpatient Admission/HaH-Plus Acute Average Allowed Costs	
Comparison Cohort (facility and professional)	\$8,010
HaH-Plus Acute	\$7,585
Total Episode Average Allowed Costs and HaH-Plus Cost Reduction	
Comparison Cohort (initial inpatient admission + 30 days post-discharge)	\$13,133
HaH-Plus (acute + post-acute) <u>Target Price</u>	\$12,739
HaH-Plus (acute + post-acute)	\$11,875
Discount to CMS	\$394
Participant Savings/Losses	\$865

Appendix H: MACT Accreditation Checklist for PTAC

1. **Compliance with Regulatory Requirements and Accreditation Standards**

The practice and all personnel must maintain all licenses, permits, certificates, clearances, accreditations and other authorizations required to provide Medical, Nursing, Rehabilitation, and other services specified.

- Any relationship established for required or preferred services must be formalized through a fully executed contract that has been legally reviewed
 - Providers/Vendors must comply with all local and state accreditation and licensing standards

2. **Patient-Centered Access**

The practice provides access to home-based care for both routine and urgent needs of patients/families/ caregivers

- Clearly defining its organizational structure
- Accepting referrals at a minimum during normal business hours, Monday through Friday
- Maintaining sufficient numbers and types of practitioners
- Providing clinical services 7 days per week
- Responding to urgent calls 24 hours per day
- Ability to deliver same-day service.
- Maintaining a formal relationship with a hospital for escalations of care including ED and Inpatient services and hospital-related payment issues
 - Ability to provide or establish formal relationships for required services as listed below
 - Infusion
 - Pharmacy
 - Laboratory Services for blood draw and diagnostics
 - Radiology
 - Durable Medical Equipment including Oxygen
 - Medical supplies
 - Ambulance Transportation
 - Call center for 7 day 24 hour back up when office closed
 - Ability to provide or establish formal relationships for preferred services as listed below
 - Ambulette and car service for patient transport
 - HIPPA compliant technology for video visits
 - Home Health Aide services
 - Community paramedicine program for urgent visits
 - Delivery service

- Community Health Workers

3. **Team-Based Coordinated Care in the Home**

The practice uses a team to provide a range of patient care services by:

- Defining roles for clinical and nonclinical team members
- Having regular patient care team meetings or a structured communication process focused on individual patient care
- Using standing orders for services

4. **Access to and experience using an Electronic Health Record (EHR)**

The practice provides continuity of care via access to medical records both in the home and at all times through an electronic health record

- Documenting clinical advice in patient records daily
- Providing continuity of medical record information for care and advice when the office is closed
- Providing timely clinical advice by telephone
- Providing timely clinical advice using a secure, interactive electronic system

5. **Population Health Management**

The practice uses a comprehensive health assessment and evidence-based decision support based on complete patient information and clinical data to manage the health of its patient population.

- The care team develops and continuously updates the individual care plan that incorporates patient preferences, treatment goals and potential barriers to meeting goals
- The practice has a process for managing medications and reviews and reconciles medications for all patients in program
- The clinical team provides educational materials and resources to patients
- The practice maintains a current resource list of importance to the patient population including community services available.

6. **Care Coordination and Care Transitions**

The practice identifies and coordinates care from all providers and community organizations involved in achieving treatment goals.

- Tracks patients with planned and unplanned hospital admissions and emergency department visits and provides for timely exchange of information
- Identifies opportunities for linkage to community-based services for ongoing clinical and social needs

- Insures clinical follow-up is achieved prior to discharge from program
- Facilitates timely exchange of information between providers, patients and their caregivers to promote safe transitions

7. Performance Measurement and Quality Improvement

The practice uses performance data to identify opportunities for improvement and acts to improve clinical quality, efficiency and patient experience.

- At least annually, the practice measures or receives data on no less than 3 acute and 3 chronic clinical measures
- At least annually, the practice measures or receives quantitative data on at least two measures related to care coordination and at least two measures affecting health care costs
- At least annually, the practice obtains feedback from patients/families on their experiences with the practice and their care.
- The practice uses the CAHPS Tool

Appendix I: Milliman Analyses

In the pages that follow, we include supporting materials and analyses from Milliman.

Hospital at Home-Plus Financial Feasibility Analysis

Michele Berrios

L. Daniel Muldoon, MA

Pamela Pelizzari, MPH

Bruce Pyenson, FSA, MAAA

May 2, 2017



Background

The Icahn School of Medicine at Mount Sinai (Mount Sinai) engaged Milliman to perform a high-level financial analysis of its proposed Hospital at Home Plus (HaH-Plus) model. HaH-Plus is a system of care that would allow certain emergency department patients to receive hospital-level care at home and avoid a traditional inpatient hospitalization. The HaH-Plus model builds on programs that divert patients who would otherwise have been admitted for an inpatient stay to their home setting where they receive acute services.^{1,2,3,4}

Mount Sinai is proposing the HaH-Plus model to the Physician-Focused Payment Model Technical Advisory Committee (PTAC). The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) created incentives for providers to participate in physician-focused payment models (PFPMs), as well as mechanisms for proposing new models through the PTAC. The PTAC has 11 members who review proposals and make recommendations to the Secretary of the Department of Health and Human Services (HHS).⁵

The PTAC members will review and deliberate on Mount Sinai's HaH-Plus proposal. Based on the review and deliberations, PTAC members will make one of four recommendations on the proposal to the Secretary of HHS:

- Do not recommend the proposed payment model to the Secretary
- Recommend the proposed model for limited-scale testing
- Recommend the proposed model for implementation
- Recommend the proposed model for implementation as a high priority

After reviewing the PTAC recommendation, the Secretary of HHS will work with the Centers for Medicare and Medicaid Services (CMS) to determine whether or not to implement the proposed

¹ <https://innovation.cms.gov/initiatives/Participant/Health-Care-Innovation-Awards-Round-Two/Icahn-School-Of-Medicine-At-Mount-Sinai.html>. Accessed April 18, 2017.

² B Leff, L Burton, B Naughton, et al. Hospital at Home: Feasibility and Outcomes of a Program to Provide Hospital-Level Care at Home for Acutely Ill Older Patients. *Ann Intern Med*. 2005; 143(11): 798-808.

³ B Leff, L Burton, Mader S, et al. Satisfaction with Hospital at Home Care. *J Am Geriatr Soc*. 2006; 54(9): 1355-63.

⁴ Frick K, Burton L, Clark R, et al. Substitutive Hospital at Home for Older Persons: Effects on Costs. *Am J Manag Care* 2009; 15(1): 49-56.

⁵ More information on the PTAC, the specific criteria for PTAC review of PFPM proposals, and what constitutes a PFPM is available at: <https://aspe.hhs.gov/ptac-physician-focused-payment-model-technical-advisory-committee>. Accessed April 18, 2017.

model and at what scale. In the event that a model is implemented by CMS, groups of providers that participate in the alternative payment model (APM) will be known as APM entities. These APM entities can receive incentive payments or other benefits (such as reductions in quality reporting requirements) based on their APM participation.

For this work, the authors worked closely with Dr. Albert Siu, who leads a Hospitalization at Home program funded by a CMS Health Care Innovation Award to the Icahn School of Medicine at Mount Sinai. This memo describes our analysis of Mount Sinai's proposed HaH-Plus model.

Purpose and Findings

This analysis is a high-level financial feasibility analysis of HaH-Plus in a Medicare population, and it is intended to provide supporting detail for Mount Sinai's PTAC application. Using the assumptions and methods stated below, we found that HaH-Plus could be delivered to a Medicare population at a lower cost than the current system of care.

Mount Sinai envisions that HaH-Plus would be classified as an advanced APM and that HaH-Plus would operate on a bundled payment basis. HaH-Plus APM entities would be independent physician group practices (PGPs) with an aligned partner hospital, hospital-based PGPs, or hospitals. CMS would pay for some services on a fee-for-service (FFS) basis and other services on a lump-sum basis. A final reconciliation would compare aggregate CMS allowed costs to a discounted target price to be developed based on CMS allowed costs for a comparison population of beneficiaries who were admitted to a hospital in the same core-based statistical area as the HaH-Plus beneficiaries. The proposed discount is 3%, which would accrue to CMS and represent savings to the Medicare trust fund. Participating APM entities would receive up to 100% of gains and repay any shortfalls compared with the discounted target price, subject to proposed stop-loss/gain limits of +/- 10%. A more complete description of the proposed payment methodology of the model is contained in the Mount Sinai HaH-Plus PTAC proposal.

Caveats and Limitations

HaH-Plus would require changes to Medicare reimbursement policy, and the likelihood of such changes was not considered in our analysis. Our analysis is high-level and does not represent a complete financial projection of HaH-Plus, and any organization wanting to assess feasibility would need to perform a significant amount of analysis. An important limitation of this work is that it is a "snapshot" analysis that does not account for start-up expenses or gradual growth of patient volumes. In addition, this model is framed for 2015 and does not account for future known or unknown changes in Medicare reimbursement.

The results are based on analysis of multiple sources, including the 100% and 5% Medicare Limited Data Set (LDS) claims files for 2015, Bureau of Labor Statistics *Occupational Employment Statistics*, and information Mount Sinai provided including the draft PTAC proposal. We relied on information from Mount Sinai for this work, including the payment model framework for HaH-Plus and program data for Mount Sinai's existing Hospitalization at Home program. We did not audit the performance of Mount Sinai's Hospitalization at Home program,

which forms the basis for HaH-Plus. Any analysis using different data sets, inputs, time periods and methodology will produce different results.

The authors of this memo are employed by Milliman, Inc., and the findings represent the authors' conclusions. This work was funded by Mount Sinai to support its PTAC application; this material may not be suitable for other purposes. Bruce Pyenson is a Member of the American Academy of Actuaries and meets its qualification standards for this work.

Methodology

Our financial analysis consisted of the following steps:

1. Identifying a national cohort of patients ("comparison cohort") who are similar to those who would be eligible for the HaH-Plus program
2. Using historical Medicare data to determine the 2015 Medicare national average allowed costs for those patients from hospital admission through 30 days post-discharge
3. Estimating national average allowed episode costs for the HaH-Plus program based on information provided by Mount Sinai and historical Medicare data for the comparison cohort
4. Estimating the reduction in Medicare FFS allowed costs with implementation of the HaH-Plus program

COMPARISON COHORT IDENTIFICATION

We selected a national historical comparison cohort of Medicare beneficiaries with claims for inpatient admissions in the 100% Medicare LDS claims files for 2015, which was intended to represent the types of cases the HaH-Plus program could feasibly and safely care for in a home-based setting. The cohort criteria were based on practical considerations and an interpretation of the historical enrollment in Mount Sinai's Hospitalization at Home program provided by Dr. Siu. Beneficiaries were required to meet the following eligibility criteria to be included in our comparison cohort:

- Age 19 and up
- Enrolled in fee-for-service (FFS) Medicare (not Medicare Advantage)
- Continuously enrolled for a full 12 months in both Part A and Part B
- Medicare entitlement was not based on end-stage renal disease (ESRD)

For patients meeting these eligibility criteria, we identified potential HaH-Plus index inpatient admissions based on the following claims-based inclusion criteria:⁶

- Hospital admission began in the emergency department (ED) and was for one of the acute medical MS-DRGs listed in Appendix 1
- Hospital length of stay was less than 8 days but more than 1 day

⁶ HaH-Plus would also include a clinical appropriateness evaluation for each beneficiary, which we cannot capture using claims data alone.

- There were no other hospital admissions within 30 days prior to the admission date
- Patient was not transferred from another inpatient facility
- Patient was not in a skilled nursing facility (SNF) at any time within the two days prior to the index inpatient admission date
- Patient was discharged to either home, home health (HH) or SNF from the index admission
- If the patient was discharged to SNF following the index admission, the SNF length of stay was less than 30 days
- Patient did not die during the index admission or within 30 days following discharge

Comparison cohort episodes were considered to begin on the admission date of the index hospitalization and end 30 days after index hospitalization discharge. To meet the “no other hospital admission within 30 days prior to admission date” criterion, a 30-day look-back period prior to admission was required. Hence, we identified index hospitalizations beginning on or after February 1, 2015. Similarly, to meet the “patient did not die...within 30 days following discharge” criterion, we required index hospitalizations to end on or before December 1, 2015. We limited the comparison cohort to discharges from hospitals that had at least 500 potential episodes (meeting all the above criteria) in 2015 and did not attempt to group hospitals into health systems.

DEVELOPMENT OF COMPARISON COHORT’S HISTORICAL MEDICARE COSTS FROM HOSPITAL ADMISSION THROUGH 30 DAYS POST-DISCHARGE

After identifying the national comparison cohort, we constructed historical episode allowed costs for the cohort using both the 100% and 5% Medicare LDS claims files.⁷ We tabulated the Medicare allowed amount for all claims that occurred during a historical episode, beginning with the index admission and ending 30 days post-discharge from the index admission. We excluded Medicare payments for indirect medical education (IME) and the disproportionate share hospital (DSH) program.

Column B of Table 1 presents the comparison cohort historical average episode allowed costs for each service category shown in column A, and column C shows the percentage of total episode allowed costs for each service category. In our 2015 analysis period, there were 478,723 comparison cohort episodes nationally, with average allowed per episode costs of \$13,133. Average allowed costs for the index inpatient admission, including both the MS-DRG Part A payment and inpatient professional services billed to Part B, was \$8,010, or 61% of total allowed costs. Aside from the inpatient professional services, these columns show \$0 for the core HaH-Plus services that would be furnished during the acute portion of the HaH-Plus episode. Readmission inpatient facility charges were \$2,505, or 19% of total spending. The remaining 20% of average total allowed costs includes \$1,018 in SNF and HH spending, \$1,004 in professional services, \$453 for outpatient facilities, and \$144 in hospice and durable medical equipment, prosthetics, orthotics, and supplies (DME) spending.

⁷ Additional details are in the Data Sources and Reliance section.

DEVELOPMENT OF HAH-PLUS EPISODE COSTS

For the purpose of this analysis, we estimated HaH-Plus episode allowed costs using 2015 fees, which is the same year as the comparison cohort.

In determining the costs associated with furnishing core HaH-Plus acute services, we used cost and employment data from Mount Sinai's Mobile Acute Care Team (MACT) program, which is Mount Sinai's Hospitalization at Home program, currently funded by a CMMI Innovation Grant.⁸ The employment costs account for employee benefits and 10% overhead.^{9,10} Full-time equivalent (FTE) counts are estimated from Mount Sinai data and assume that a typical program nationally would serve 300 patients per year, or just under 6 per week. The FTEs also account for the provision of 30-day transition services, including nursing visits and social work services. When extrapolating from Mount Sinai's experience to the national model, we applied a wage differential using data from the Bureau of Labor Statistics (BLS) median hourly wage nationally and in New York City for several relevant occupations.¹¹

Patients who are admitted to inpatient stays from an ED visit do not generate a separate ED payment from Medicare. However, patients who will go from the ED to HaH-Plus will have an ED payment generated by Medicare. We estimated the initial ED allowed cost for the HaH-Plus episodes based on ED payments from comparison cohort episodes that had any ED visits after the initial inpatient admission. We estimated the national average allowed amount for a monthly hospital bed rental from analysis of the 5% Medicare LDS DME claims files, and used Mount Sinai cost data for the Mount Sinai estimate. Lastly, we estimated community paramedicine services furnished during the acute portion of the HaH-Plus episode as 2% of the base MS-DRG allowed amount for the comparison cohort initial inpatient admission (or about \$140), based on estimates from Mount Sinai's experience.

For services furnished in the post-acute portion of the HaH-Plus episode, we estimated that readmissions (and associated professional services) and ED visits would decrease 25%. While Mount Sinai's experience to-date shows roughly a 50% reduction in readmissions and ED visits, we present a smaller reduction because most potential APM entities would not already have experience operating a HaH program. Any reduction beyond 25% would likely further reduce expenditures. Additionally, we estimated that other outpatient services (radiology, labs, drugs, PT/OT/ST, etc.) and other outpatient professional services would decrease by 10% through use of care protocols and the care transition services that will be furnished during the HaH-Plus episode.¹²

Columns D, E, and F of Table 1 show the estimated allowed costs or program costs that would occur if all of the comparison cohort episodes had instead been HaH-Plus episodes, the change in spending relative to the comparison cohort, and the percentage of total episode spending

⁸ Additional details are in the Data Sources and Reliance section.

⁹ Employee benefits include FICA and other payroll taxes, life insurance, medical insurance, workers compensation, disability insurance, and payroll tax.

¹⁰ Overhead excludes facility-related costs that would not be necessary in HaH-Plus.

¹¹ Additional details are in the Data Sources and Reliance section.

¹² The other professional services row on Table includes professional services furnished in SNFs and non-ED outpatient facilities. The 10% reduction was not applied to professional services furnished in SNFs.

accounted for by each service category in column A. Based on the cost estimates described above, we estimate that total costs for the acute portion of the HaH-Plus episode (the initial portion of the HaH-Plus episode when physicians, nurses, and other clinicians furnish acute services in a beneficiary's home in place of an inpatient admission) is \$7,585. This amount would be spread across the core HaH-plus services, including an estimated \$2,517 for professional services, \$2,078 for nursing services, \$649 for the initial ED visit, and approximately \$2,340 for the additional services or supplies necessary to furnish acute care services in the home setting.

Based on the assumptions described above, we estimate that on average, the total cost of the post-acute portion of a hypothetical HaH-Plus episode would be \$4,289, with readmissions, SNF/HHA, and professional services accounting for around about 87% of the allowed amount.

ESTIMATING THE REDUCTION IN MEDICARE FEE-FOR-SERVICE SPENDING FOR THE HAH-PLUS PROGRAM

We evaluated the HaH-Plus financial feasibility by comparing historical comparison cohort episode allowed costs to the costs that would have occurred if the historical episodes had occurred under the HaH-Plus model. The purpose of the comparison is two-fold:

1. To show the expected costs for services that would be furnished during the acute portion of a HaH-Plus episode relative to comparison cohort average allowed cost for the initial inpatient admission
2. To demonstrate whether HaH-Plus is likely to reduce allowed costs enough to offer value both to possible APM entities and to CMS

In addition to the figures described above, Table 1 compares average episode spending for an HaH-Plus episode to the corresponding average episode spending for the comparison cohort. Costs in the acute portion of the HaH-Plus episode of \$7,585 is 95% of the average initial inpatient allowed cost in the comparison cohort of \$8,010, including the MS-DRG payment and professional billings – a difference of \$424. While we estimated approximately 5% lower allowed costs in the HaH acute portion of the episode, prior research has shown 19% cost reduction.¹³ Our analysis includes additional costs of services that the HaH team provides throughout the episode that the prior research did not consider.

Additionally, Mount Sinai's experience to date shows that beneficiaries in its MACT program have shorter length of stay than comparison beneficiaries who are admitted to the hospital (3.1 days compared to 5.3 days). APM entities in the HaH-Plus model may be able to reduce expenditures further if they can decrease length of stay for the acute portion of the episode, but we did not factor reduced length of stay into our estimates.

Table 2 presents estimated savings from HaH-Plus, which is defined as the difference between the comparison cohort historical episode spending. We estimate that before gain sharing, national average costs per HaH-Plus episode would decrease by about \$1,260, on average,

¹³ Cryer, L., S. B. Shannon, M. Van Amsterdam, and B. Leff. "Costs For 'Hospital At Home' Patients Were 19 Percent Lower, With Equal Or Better Outcomes Compared To Similar Inpatients." *Health Affairs* 31.6 (2012): 1237-243.

approximately 10% of average episode allowed costs for the comparison cohort. This decrease is composed of a \$424 reduction for the acute portion of the HaH-Plus episode and an \$835 reduction in the post-acute portion. Under the proposed HaH-Plus model, CMS would receive a 3% discount built into target prices, or \$394 per episode, on average, with the APM entities receiving an average of \$865 per episode, assuming the APM entities met or exceeded quality metric performance targets and qualified for full shared savings. The full APM entity share corresponds to roughly a 7% margin compared to comparison cohort allowed costs of \$13,133.¹⁴

Mount Sinai's HaH-Plus proposal contains 10 quality measures, and HaH-Plus APM entities would be required to achieve performance targets on all 10 measures to qualify for a full shared savings. The shared savings percentage would be reduced by 10% for each performance target that an APM entity failed to achieve. To the extent that APM entities fail to achieve all quality measure performance targets, CMS' shared savings percent would increase and the participant's shared savings percent would decrease. Conversely, APM entities that did not reduce spending would be required to repay CMS up to 100% of the amount by which spending exceeded the target. APM entities achieving all performance targets would be required to pay back 50% of the difference. The shared loss percentage would increase by 5% for each performance target that the APM entity failed to achieve.

If 20% of the episodes in the national comparison cohort occurred in HaH-Plus, and if the underlying distribution of HaH-Plus episodes across MS-DRGs matches the distribution of episodes across MS-DRGs in the national comparison cohort analysis, total allowed costs would decrease by approximately \$145 million annually across 114,900 episodes.^{15,16} CMS would save approximately \$45 million, with APM entities receiving the remaining \$99 million as performance-based payments, assuming all quality metric performance targets were achieved.

Data Sources and Reliance

100% AND 5% MEDICARE LIMITED DATA SET CLAIMS FILES

The comparison cohort was constructed using the 100% and 5% Medicare LDS claims files for 2015. The 100% Medicare LDS claims files contain all Medicare paid FFS claims generated for all Medicare beneficiaries in the U.S. for all services except professional claims (carrier file) and DME. We used the 5% Medicare LDS claims files for February through November 2015 to estimate professional and DME allowed costs associated with the inpatient admissions and the professional/DME costs occurring in the 30 days following the inpatient admission or discharge for beneficiaries in both the 5% and 100% Medicare LDS claims files. These estimates also served as the basis for estimates of professional/DME allowed costs for beneficiaries in only the 100% Medicare LDS claims files. We also used the Medicare data when estimating spending for certain services furnished in the HaH-Plus episodes, including community paramedicine

¹⁴ This is calculated as \$865 in participant shared savings divided by average comparison cohort episode allowed costs of \$13,133.

¹⁵ Appendix 1 shows the distribution of national comparison cohort episodes across MS-DRGs.

¹⁶ We estimated the number of episodes in two steps. First we multiplied 478,723 by a factor of 1.2 to account for the fact that our comparison cohort is constructed from 10 months in 2015, yielding 574,468 episodes. We then multiplied 574,468 by 20%, yielding approximately 114,900.

services, 30-day transition services, and all services that would occur after discharge from the acute portion of the HaH-Plus episode.

The 100% and 5% Medicare LDS claims files includes diagnosis codes, procedure codes, and diagnosis-related group (DRG) codes, along with site of service information including provider IDs. The data also provides monthly eligibility data for each beneficiary including demographics, eligibility status and an indicator for HMO enrollment.

MOUNT SINAI MOBILE ACUTE CARE TEAM (MACT) COST DATA

Mount Sinai provided Milliman with estimates of the costs associated with operating its current MACT program. This included FTE counts for core team members required for the acute portion of the HAH-Plus episode, including physicians, nurse practitioners, nurses, social workers, administrative assistants, management staff, and operations staff. Table 3 below shows the FTE counts and average cost per episode for the core team members. For these occupations, we constructed estimates of the hourly wage differential between New York City and national wages, using data from the Bureau of Labor Statistics for several core team member occupations.

Additionally, Mount Sinai provided estimates of the average variable costs for furnishing services during the acute portion of the HaH-Plus episode, which included physical therapy, outpatient therapy, speech therapy, DME, labs, radiology, infusion services and medications, provider and beneficiary transportation, home attendant services, and other supplies and fees. Table 4 below shows the average variable cost for the acute portion of each episode.

We did not audit any of the information provided by Mount Sinai but reviewed it for reasonableness.

BUREAU OF LABOR STATISTICS OCCUPATIONAL EMPLOYMENT STATISTICS¹⁷

We calculated the wage differentials as the ratio of national hourly wages to New York City hourly wages using data from the 2015 BLS Occupational Employment Statistics for several core team member occupations, including internist, nurse practitioner, registered nurse, social worker, administrative assistant, certain management positions, and physical, occupational, and speech therapists. Table 5 below shows the hourly wages used to calculate the wage differentials.

¹⁷ https://www.bls.gov/oes/2015/may/oes_stru.htm. Though 2016 occupation profiles were released on March 31, 2017, we used the 2015 occupation profiles for the analysis to align with the 2015 CMS data used to construct the comparison cohort.

Tables

TABLE 1. HAH-PLUS FINANCIAL FEASIBILITY EXHIBIT, NATIONAL 2015 COMPARISON COHORT

NUMBER OF EPISODES		478,723			
MINIMUM PATIENT AGE		19			
AVERAGE PATIENT AGE		74			
MAXIMUM PATIENT AGE		98			
		COMPARISON COHORT		HYPOTHETICAL HAH-PLUS	
(A)	(B)	(C)	(D)	(E)	(F)
	AVERAGE ALLOWED PER EPISODE	% OF TOTAL EPISODE COST	ESTIMATED AVERAGE ALLOWED OR PROGRAM COST PER EPISODE	CHANGE FROM CURRENT	% OF TOTAL EPISODE COST
SERVICES PROVIDED IN INITIAL INPATIENT STAY	\$6,864	52.3%	\$0	(\$6,864)	0.0%
SERVICES OVERLAPPING WITH DRG					
INITIAL ED VISIT	\$0	0.0%	\$649	\$649	5.5%
NURSING (AND RN SUPERVISOR)	\$0	0.0%	\$2,078	\$2,078	17.5%
SOCIAL WORK (AND SW SUPERVISOR)	\$0	0.0%	\$347	\$347	2.9%
ADMINISTRATIVE ASSISTANCE	\$0	0.0%	\$454	\$454	3.8%
PT/OT/ST	\$0	0.0%	\$12	\$12	0.1%
HOSPITAL BED	\$0	0.0%	\$68	\$68	0.6%
OTHER DME/EQUIPMENT	\$0	0.0%	\$33	\$33	0.3%
DRUGS	\$0	0.0%	\$94	\$94	0.8%
RADIOLOGY	\$0	0.0%	\$21	\$21	0.2%
MEDICAL SUPPLIES	\$0	0.0%	\$108	\$108	0.9%
LABS	\$0	0.0%	\$96	\$96	0.8%
OTHER	\$0	0.0%	\$40	\$40	0.3%
SERVICES NOT OVERLAPPING WITH DRG					
PROFESSIONAL SERVICES (NP+MD)	\$1,148	8.7%	\$2,517	\$1,371	21.2%
MEDICAL DIRECTOR	\$0	0.0%	\$278	\$278	2.3%
PRACTICE MANAGER	\$0	0.0%	\$229	\$229	1.9%
PROGRAM OPERATIONS	\$0	0.0%	\$25	\$25	0.2%
PATIENT TRANSPORTATION	\$0	0.0%	\$108	\$108	0.9%
PROVIDER TRANSPORTATION	\$0	0.0%	\$271	\$271	2.3%
HOME ATTENDANT	\$0	0.0%	\$17	\$17	0.1%
COMMUNITY PARAMEDICINE	\$0	0.0%	\$140	\$140	1.2%
INITIAL INPATIENT / HAH ACUTE	\$8,010	61.0%	\$7,585	(\$424)	63.9%
POST-ACUTE					
READMISSION INPATIENT FACILITY	\$2,505	19.1%	\$1,878	(\$626)	15.8%
SKILLED NURSING FACILITY	\$685	5.2%	\$685	\$0	5.8%
HOME HEALTH	\$333	2.5%	\$333	\$0	2.8%
HOSPICE	\$46	0.3%	\$46	\$0	0.4%
OUTPATIENT FACILITY - ED	\$81	0.6%	\$61	(\$20)	0.5%
OUTPATIENT FACILITY - OTHER	\$372	2.8%	\$335	(\$37)	2.8%
PROFESSIONAL SERVICES - IP READMISSION	\$387	2.9%	\$290	(\$97)	2.4%
PROFESSIONAL SERVICES - OTHER	\$618	4.7%	\$563	(\$54)	4.7%
DURABLE MEDICAL EQUIPMENT	\$98	0.7%	\$98	\$0	0.8%
POST-ACUTE TOTAL	\$5,124	39.0%	\$4,289	(\$835)	36.1%
TOTAL AVERAGE EPISODE COSTS	\$13,133	100.0%	\$11,875	(\$1,259)	100.0%

Source: Milliman calculations based on analysis of 2015 100% and 5% Medicare LDS claims files, Mount Sinai cost data, and 2015 BLS Occupational Employment Statistics data.

TABLE 2. ESTIMATED ANNUAL NATIONWIDE HAH-PLUS SAVINGS

	PER EPISODE	ESTIMATES ASSUMING 20% OF COMPARISON COHORT EPISODES OCCUR AS HAH-PLUS EPISODES
NUMBER OF EPISODES	1	114,900
COMPARISON COHORT	\$13,133	\$1,509,032,000
HAH-PLUS ESTIMATED SPENDING	\$11,875	\$1,364,380,000
REDUCED SPENDING	\$1,259	\$144,652,000
CMS DISCOUNT OF 3%	\$394	\$45,271,000
PARTICIPANT SAVINGS	\$865	\$99,381,000

Notes: Annual episode count is inflated by a factor of 1.2 because Milliman's financial feasibility analysis was limited to 10 months of episodes in 2015. Additionally, this figure is based on hospitals that had at least 500 episodes in the comparison cohort.

Source: Milliman calculations based on analysis of 2015 100% and 5% Medicare LDS claims files, Mount Sinai cost data, and 2015 BLS Occupational Employment Statistics data.

TABLE 3. MOUNT SINAI HAH-PLUS CORE TEAM MEMBER FTE COUNTS AND AVERAGE COST PER THE ACUTE PORTION OF AN EPISODE

POSITION	FTEs REQUIRED TO OPERATE ACUTE ACTIVE MACT WITH 300 ANNUAL EPISODES	COST PER EPISODE (ACUTE PORTION ONLY)
PHYSICIAN	1.66	\$1,509
NURSE PRACTITIONER	2.00	\$1,181
REGISTERED NURSE	4.25	\$2,214
SOCIAL WORKER	1.25	\$378
ADMINISTRATIVE ASSISTANT	3.00	\$568
PRACTICE MANAGER / DATA MANAGER (QI)	1.00	\$284
MEDICAL DIRECTOR	0.30	\$287
NURSING SUPERVISOR	0.50	\$314
SOCIAL WORK SUPERVISOR	0.05	\$20
PROGRAM OPERATIONS		\$25
AVERAGE TOTAL COST PER EPISODE		\$6,780

Source: Mount Sinai MACT program data.

TABLE 4. MOUNT SINAI VARIABLE PROGRAM COSTS DURING THE ACUTE PORTION OF AN EPISODE

VARIABLE COSTS	COST PER EPISODE (ACUTE PORTION ONLY)
PT/OT/ST	\$14
INFUSION VISITS & SUPPLIES	\$67
HOME ATTENDANT SERVICES	\$17
DME/EQUIPMENT	\$33
LABS	\$96
RADIOLOGY	\$21
PATIENT TRANSPORTATION	\$108
MEDICATIONS	\$27
PROVIDER TRANSPORTATION	\$271
OTHER SUPPLIES	\$108
DRG CODING FEES	\$40
TOTAL VARIABLE COST PER EPISODE	\$803

Note: Milliman adjusted PT/OT/ST variable costs by a wage differential when constructing the national estimates.
Source: Mount Sinai MACT program data.

TABLE 5. BUREAU OF LABOR STATISTICS 2015 HOURLY WAGES NATIONALLY AND IN NEW YORK CITY FOR SELECT CORE TEAM MEMBER OCCUPATIONS AND PHYSICAL THERAPY, OCCUPATIONAL THERAPY, AND SPEECH-LANGUAGE PATHOLOGY

OCCUPATION	NATIONAL HOURLY WAGES	NEW YORK CITY HOURLY WAGES
REGISTERED NURSE	\$34.14	\$41.54
SOCIAL WORK	\$25.97	\$29.65
SOCIAL WORK SUPERVISOR	\$33.38	\$43.98
ADMINISTRATIVE ASSISTANT	\$16.50	\$20.61
PHYSICAL THERAPIST	\$41.25	\$44.91
OCCUPATIONAL THERAPIST	\$39.27	\$42.49
SPEECH-LANGUAGE PATHOLOGIST	\$36.97	\$46.05
PT/OT/ST (AVERAGE OF THREE CATEGORIES)	\$39.16	\$44.48
PRACTICE MANAGER	\$50.99	\$63.29
INTERNIST	\$94.48	\$97.62
NURSE PRACTITIONER	\$48.68	\$54.43

Source: Bureau of Labor Statistics Occupational Employment Statistics available at https://www.bls.gov/oes/2015/may/oes_stru.htm

Appendix: MS-DRGs Included in Constructing Comparison Cohort

MS-DRG	MS-DRG DESCRIPTION	FY 2015 MS-DRG RELATIVE WEIGHT	NATIONAL EPISODES	% OF TOTAL
176	PULMONARY EMBOLISM W/O MCC	0.967	6,809	1.4%
177	RESPIRATORY INFECTIONS & INFLAMMATIONS W MCC	1.949	5,951	1.2%
178	RESPIRATORY INFECTIONS & INFLAMMATIONS W CC	1.391	5,661	1.2%
179	RESPIRATORY INFECTIONS & INFLAMMATIONS W/O CC/MCC	0.969	1,467	0.3%
189	PULMONARY EDEMA & RESPIRATORY FAILURE	1.214	18,678	3.9%
190	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W MCC	1.174	24,805	5.2%
191	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W CC	0.937	21,784	4.6%
192	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W/O CC/MCC	0.719	10,886	2.3%
193	SIMPLE PNEUMONIA & PLEURISY W MCC	1.449	17,956	3.8%
194	SIMPLE PNEUMONIA & PLEURISY W CC	0.969	25,999	5.4%
195	SIMPLE PNEUMONIA & PLEURISY W/O CC/MCC	0.704	9,251	1.9%
202	BRONCHITIS & ASTHMA W CC/MCC	0.878	6,872	1.4%
203	BRONCHITIS & ASTHMA W/O CC/MCC	0.654	2,812	0.6%
204	RESPIRATORY SIGNS & SYMPTOMS	0.704	2,034	0.4%
206	OTHER RESPIRATORY SYSTEM DIAGNOSES W/O MCC	0.794	2,107	0.4%
291	HEART FAILURE & SHOCK W MCC	1.510	26,172	5.5%
292	HEART FAILURE & SHOCK W CC	0.982	33,866	7.1%
293	HEART FAILURE & SHOCK W/O CC/MCC	0.676	10,828	2.3%
299	PERIPHERAL VASCULAR DISORDERS W MCC	1.409	2,166	0.5%
300	PERIPHERAL VASCULAR DISORDERS W CC	0.977	5,344	1.1%
301	PERIPHERAL VASCULAR DISORDERS W/O CC/MCC	0.678	2,017	0.4%
305	HYPERTENSION W/O MCC	0.627	4,712	1.0%
312	SYNCOPE & COLLAPSE	0.742	3,361	0.7%
371	MAJOR GASTROINTESTINAL DISORDERS & PERITONEAL INFECTIONS W MCC	1.863	1,390	0.3%
392	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS W/O MCC	0.739	38,565	8.1%
393	OTHER DIGESTIVE SYSTEM DIAGNOSES W MCC	1.689	2,311	0.5%
394	OTHER DIGESTIVE SYSTEM DIAGNOSES W CC	0.945	8,428	1.8%
395	OTHER DIGESTIVE SYSTEM DIAGNOSES W/O CC/MCC	0.657	2,893	0.6%
438	DISORDERS OF PANCREAS EXCEPT MALIGNANCY W MCC	1.702	1,313	0.3%
439	DISORDERS OF PANCREAS EXCEPT MALIGNANCY W CC	0.907	5,798	1.2%
440	DISORDERS OF PANCREAS EXCEPT MALIGNANCY W/O CC/MCC	0.642	3,408	0.7%
602	CELLULITIS W MCC	1.456	3,198	0.7%
603	CELLULITIS W/O MCC	0.845	25,236	5.3%
637	DIABETES W MCC	1.394	2,785	0.6%
638	DIABETES W CC	0.826	7,895	1.6%
639	DIABETES W/O CC/MCC	0.607	2,115	0.4%
640	MISC DISORDERS OF NUTRITION, METABOLISM, FLUIDS/ELECTROLYTES W MCC	1.104	5,114	1.1%
641	MISC DISORDERS OF NUTRITION, METABOLISM, FLUIDS/ELECTROLYTES W/O MCC	0.705	16,784	3.5%
683	RENAL FAILURE W CC	0.951	26,026	5.4%
684	RENAL FAILURE W/O CC/MCC	0.609	4,690	1.0%
689	KIDNEY & URINARY TRACT INFECTIONS W MCC	1.117	13,577	2.8%
690	KIDNEY & URINARY TRACT INFECTIONS W/O MCC	0.779	29,626	6.2%
698	OTHER KIDNEY & URINARY TRACT DIAGNOSES W MCC	1.563	5,562	1.2%
699	OTHER KIDNEY & URINARY TRACT DIAGNOSES W CC	1.017	4,574	1.0%
864	FEVER	0.842	2,145	0.4%
866	VIRAL ILLNESS W/O MCC	0.743	1,218	0.3%
872	SEPTICEMIA OR SEVERE SEPSIS W/OMV 96+ HOURS W/O MCC	1.053	6,791	1.4%
948	SIGNS & SYMPTOMS W/O MCC	0.713	5,743	1.2%
TOTAL			478,723	100.0%

Source: Milliman calculations based on analysis of 2015 100% Medicare LDS claims files.



Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in life insurance and financial services, property & casualty insurance, healthcare, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

milliman.com

CONTACT

Pamela Pelizzari
pamela.pelizzari@milliman.com

© 2017 Milliman, Inc. All Rights Reserved. The materials in this document represent the opinion of the authors and are not representative of the views of Milliman, Inc. Milliman does not certify the information, nor does it guarantee the accuracy and completeness of such information. Use of such information is voluntary and should not be relied upon unless an independent review of its accuracy and completeness has been performed. Materials may not be reproduced without the express consent of Milliman.

Appendix J: Letters of Support

In the pages that follow, we include the letters of support we have received from the following organizations:

- Presbyterian Healthcare at Home
- Trinity Health
- Cleveland Clinic
- Kaiser Permanente
- University of Utah Healthcare
- UnityPoint
- Marshfield Clinic
- NCQA



Presbyterian Healthcare at Home
8100 Constitution Place NE, Suite 400
Albuquerque NM 87110
(505) 559-1000
Fax: (505) 559-1155
www.phs.org

March 8, 2017

RE: Letter of support for a physician-focused payment model for Mobile Acute Care Team "Hospital at Home" services

Dear Dr. Charney,

On behalf of the Presbyterian Healthcare Services (PHS), I submit this letter in strong support of the Ichan School of Medicine at Mount Sinai's request to the Physician-Focused Payment Model (PFPM) Technical Advisory Committee (PTAC) for a 30-day care and payment bundle for Hospital at Home (HaH)-Plus services.

As you are aware, PHS exists to improve the health of the patients, members and communities we serve. We are a locally owned and operated not-for-profit healthcare system known nationally for our extensive experience in integrating healthcare financing and delivery. In 2008, with technical assistance provided by Dr. Bruce Leff and his team from the Johns Hopkins University School of Medicine, who originated the HaH model in the U.S., we developed and deployed our HaH care model. We have had tremendous success with the HaH. It has improved health outcomes for our patients and spurred us to develop a suite of community-focused health care delivery for our most complex and costly patients.

A major limiting factor in our ability to further scale the HaH model at PHS has been a lack of a payment model for this innovative service in fee-for-service Medicare. Currently, we limit our use of HaH to our own Medicare Advantage beneficiaries, for whom we are the payer of services and for whom our ability to provide better care at lower costs align.

If the PTAC were to approve the proposed PFPM for HaH-Plus, PHS would be able to offer HaH to fee-for-service Medicare beneficiaries who meet eligibility criteria for care.

Respectfully submitted,

Handwritten signature of Karrie Decker in black ink.

Karrie Decker
Administrator,
Presbyterian Healthcare at Home

Handwritten signature of Nancy Guinn in black ink.

Nancy Guinn, MD
Medical Director,
Presbyterian Healthcare at Home



17410 College Parkway, Suite 150
Livonia, MI 48152-2363
877-827-0788
TrinityHealthAtHome.org

March 13, 2017

Dr. Dennis Charney
Dean, Icahn School of Medicine at Mount Sinai Health System
New York, New York

RE: Letter of support to PTAC for a Physician-Focused Payment Model (PFPM) for "Hospital at Home" services

Dear Dr. Charney,

We applaud Mount Sinai's application to the Physician-Focused Payment Model (PFPM) Technical Advisory Committee (PTAC) for a 30-day care and payment bundle for Hospital at Home (HaH)-Plus services and are pleased to provide this letter of support for your application.

The HaH model is highly innovative with a strong evidence base of its ability to improve patient outcomes, care experience, and reduce costs. However, as you are well aware, scaling HaH has been limited by a lack of a payment mechanism in fee-for-service Medicare. The lack of a fee-for-service payment mechanism impedes the ability of hospitals, health systems, and physicians from achieving a critical mass of patients, services, and staff to sustain a quality, robust, and cost efficient HaH program and prevents our health care system, broadly writ from reaching a level of change in culture and practice where referral and caring for acutely ill patients at home is considered customary.

Our enthusiasm for HaH derives from our extensive experience in health service delivery innovation. As the President and CEO of Trinity Health – a system serving people and communities in 22 states with 93 hospitals, and 120 continuing care locations that has a demonstrated commitment to delivery system transformation – and current CEO of Trinity Health at Home we believe that HaH represents a strong opportunity for the U.S. health care system to start to move the provision of acute care to the community and achieve the Triple Aim for health care.

We are currently engaged in developing a pilot of HaH at Trinity Health with our Medicare Advantage beneficiaries. Dr. Bruce Leff and his team from the Johns Hopkins University School of Medicine, who originated the HaH model in the U.S., are providing our team at Trinity with technical assistance to stand up our model. While we anticipate a successful pilot, we do anticipate that a limiting factor in our ability to maximally scale the HaH model at Trinity will be a lack of a payment model for this innovative service in fee-for-service Medicare. If the PTAC were to approve the proposed PFPM for HaH, we would hope to be able to offer HaH to fee-for-service Medicare beneficiaries who meet eligibility criteria for care.

Respectfully submitted,

Handwritten signature of Richard J. Gilfillan MD in black ink.

Richard J. Gilfillan, MD
President and CEO
Trinity Health

Handwritten signature of Erin Denholm in black ink.

Erin Denholm, RN, MSN, RWJENF
President and CEO
Trinity Health at Home

April 6, 2017

Dennis Charney, MD
Icahn School of Medicine at Mount Sinai
One Gustave Levy Place
New York, NY 10029

RE: Letter of support for a physician-focused payment model for “Hospital at Home” services

Dear Dr. Charney:

On behalf of Cleveland Clinic, I submit this letter in strong support of the Ichan School of Medicine at Mount Sinai’s request to the Physician-Focused Payment Model (PFPM) Technical Advisory Committee (PTAC) for a 30-day care and payment bundle for Hospital at Home (HaH)-Plus services.

The Center for Connected Care, Cleveland Clinic’s umbrella organization for post-acute and community-based services, aims to provide high-value, patient-centered home care services. We believe that a HaH model will greatly enhance the quality and value of care for our patients, and as such have recently assembled such a program at our Institution. While we are currently capable of delivering hospital-level acute care to patients at home, only some of the services necessary to provide this care are covered by Medicare, which in turn hampers our ability to scale up our work, and integrate these services into a high-value, efficient model. Additionally, inconsistent and insufficient funding of this service will be a hurdle to further innovation of the model at our Institution.

We strongly support a payment model for HaH in fee-for-service Medicare. If the PTAC were to approve the proposed PFPM for HaH-Plus, Cleveland Clinic would have an interest in offering hospital at home to fee-for-service Medicare beneficiaries who meet eligibility criteria for care.

Sincerely,



Eiran Gorodeski, MD, MPH

April 6, 2017

Dennis Charney, MD
Icahn School of Medicine at Mount Sinai
One Gustave Levy Place
New York, NY 10029

Re: Support letter for a physician-focused payment model for Hospital-at-Home services

Dear Dr. Charney,

On behalf of Kaiser Permanente, I submit this letter in strong support of the Icahn School of Medicine at Mount Sinai's request to the Physician-Focused Payment Model (PFPM) Technical Advisory Committee (PTAC) for a 30-day care and payment bundle for Hospital at Home (HAH)-Plus services.

We believe that a hospital-at-home program will greatly enhance the quality and value of care for our patients and members, as multiple studies have demonstrated improved patient outcomes and lower costs for hospital-at-home programs as compared to in-hospital care. At Kaiser Permanente, the largest private, non-profit health system in the United States, we have begun early efforts in this regard, "admitting" 200 patients to their home instead of the hospital, and look to learn from Mt. Sinai's experience.

At Kaiser Permanente, the absence of a payment model for traditional Medicare is less of a barrier to our ability to deliver hospital at home services. However, we believe that creating such programs in traditional Medicare will contribute to larger health system adoption of the capability to deliver services outside the traditional hospital setting. This will benefit Medicare patients in general and the communities that we serve across the country. We strongly support approval of the proposed payment model for HAH-Plus by the PTAC.

Sincerely,



Nirav R. Shah, MD, MPH
Senior Vice President & Chief Operating Officer
Kaiser Foundation Hospitals and Health Plan



March 16, 2017

Dennis Charney, MD
Icahn School of Medicine at Mount Sinai
One Gustave Levy Place
New York, NY 10029

RE: Letter of support for a physician-focused payment model for "Hospital at Home" services

Dear Dr. Charney,

On behalf of University of Utah Health, I submit this letter in strong support of the Icahn School of Medicine at Mount Sinai's request to the Physician-Focused Payment Model (PFPM) Technical Advisory Committee (PTAC) for a 30-day care and payment bundle for Hospital at Home (HaH)-Plus services.

Our organization is pursuing a Hospital at Home model and a major limiting factor in our ability to further scale the hospital at home model has been a lack of a payment model for this innovative service in fee-for-service Medicare.

If the PTAC were to approve the proposed PFPM for HaH-Plus, our organization would have an interest in offering hospital at home to fee-for-service Medicare beneficiaries who meet eligibility criteria for care.

Best,

A handwritten signature in black ink, appearing to read 'Peter Weir'.

Peter Weir, MD
Executive Medical Director, Population Health
University of Utah Health
50 North Medical Drive
Salt Lake City, UT 84132



UnityPoint at Home

Administration
11333 Aurora Avenue
Urbandale, Iowa 50322

Date: April 4, 2017

Dr. Dennis Charney
Dean, Icahn School of Medicine at Mount Sinai Health System
New York, New York

RE: Letter of support to PTAC for a Physician-Focused Payment Model (PFPM) for "Hospital at Home" Services

Dear Dr. Charney,

We want to offer our support to Mount Sinai's application to the Physician-Focused Payment Model (PFPM) Technical Advisory Committee (PTAC) for a 30-day care and payment bundle for Hospital at Home (HaH)-Plus services and are pleased to provide this letter of support for your application.

As a highly innovative model, HaH is evidence based and has shown that it can improve patient outcomes, care experience, and reduce costs, thus meeting the Triple Aim. HaH implementation and scalability has been limited by a lack of a payment mechanism in fee-for-service Medicare. The lack of a fee-for-service payment mechanism impedes the ability of providers from achieving a critical mass of patients, services, and staff to sustain a quality, robust, and cost efficient HaH program. The lack of a payment mechanism also prevents our health care system from reaching a comfort level to change culture and practice so that referring and caring for acutely ill patients at home is recognized as an appropriate location.

Our enthusiasm for HaH derives from our extensive experience in health service delivery innovation and population health management. As a system serving people and communities in 4 states, Unity Point at Home, Unity Point Clinic and Unity Point Health have demonstrated commitment to delivery system transformation, and we are in agreement with Mount Sinai that HaH represents a strong opportunity for the U.S. health care system to start to move the provision of acute care to the community and achieve the Triple Aim for health care.

We have just concluded a pilot of HaH at Unity Point Health. With just 10 patients, we were able to demonstrate a very successful pilot, however we did experience a limiting factor as there is no reimbursement to build the program to scale. If the PTAC were to approve the proposed PFPM for HaH, we would hope to be able to offer HaH to fee-for-service Medicare beneficiaries who meet eligibility criteria for care.

Respectfully submitted,



Andrew Molosky
President and Chief Operations Officer
UnityPoint at Home

Marshfield Clinic®

Narayana S. Murali, M.D., FACP
Executive Director

April 17, 2017

Physician-Focused Payment Model Technical Advisory Committee
C/o U.S. DHHS Asst. Sec. of Planning and Evaluation Office of Health Policy
200 Independence Avenue S.W.
Washington, DC 20201
PTAC@hhs.gov

Letter of Support to PTAC for a Physician-Focused Payment Model (PFPM) for Hospital at Home Plus (HaH-Plus)

Dear PTAC Members:

The Marshfield Clinic Health System (MCHS) expresses its enthusiastic support for Mount Sinai's proposal for a 30-day care and payment bundle for Hospital at Home Plus (HaH-Plus).

Informed by our own efforts to operate a home hospitalization program with a comparable 30-day care and payment bundle, we at MCHS believe Mount Sinai's Hospital at Home model has the ability to improve patient experiences and clinical outcomes while reducing costs.

As we operationalize and expand our own program, we see first-hand how the lack of an effective payment mechanism for fee-for-service Medicare prevents provider networks from enrolling the volume of eligible patients required to sustain optimal cost efficiencies. PTAC's approval of Mount Sinai's proposed payment model would fill this gap and thus enable the scaling of home hospitalization programs not only at MCHS and Mount Sinai but throughout the the country as well.

MCHS serves patients across more than 50 locations in Wisconsin and I firmly believe home hospitalization programs create an opportunity to effectively deliver acute care in patients' homes and communities. Such programs can effectively deliver this acute care while protecting vulnerable populations, the elderly for example, from unintended risks associated with traditional inpatient hospitalizations such as infection.

If the PTAC were to approve the proposed PFPM for HaH-Plus, I would hope to be able to offer MCHS' own program to eligible Medicare beneficiaries across Wisconsin. I would also be eager to support creation and expansion of such home hospitalization programs wherever providers seek to leverage such programs to achieve the Triple Aim for U.S. health care: improving the patient experience of care, improving the health of populations and reducing the per capita health care spend.

Sincerely,



Narayana S. Murali, MD, FACP
Executive Director, Marshfield Clinic
President & CEO, MCHS Hosp. Inc.
Chief Clinical Strategy Officer, Marshfield Clinic Health System



April 20, 2017

Albert Siu, MD
Icahn School of Medicine at Mount Sinai
One Gustave Levy Place
New York, NY 10029

Dear Dr. Siu:

On behalf of the National Committee for Quality Assurance (NCQA), I am writing to submit this letter in support of the Icahn School of Medicine at Mount Sinai's request to the Physician-Focused Payment Model (PFPM) Technical Advisory Committee (PTAC) for a 30-day care and payment bundle for Hospital at Home (HaH)-Plus services.

A major factor in the development of hospital at home programs has been the lack of a payment model for this innovative service in fee-for-service Medicare. At the same time, we recognize that hospital at home programs are complex innovations to implement and that it would be important to have critical program features in place to ensure robust programs that would provide quality service to Medicare beneficiaries. We have discussed this with the leadership of the Mount Sinai program and have reviewed the preliminary document outlining some of these critical elements.

NCQA has an established record in the evaluation of a variety of accountable models of care including programs on the spectrum of population health management, practice-systems evaluations (for patient-centered medical home and specialty practices) and accountable care organizations. Our experience includes measure development and implementation and the translation of accountability principles and stakeholder expectations into discrete, objective standards for assessment.

If the PTAC were to approve the proposed PFPM for HaH-Plus, NCQA would have an interest in exploring how we could be involved in offering a mechanism by which to certify organizations interested in providing this service to Medicare beneficiaries.

Sincerely,

A handwritten signature in black ink, appearing to read "Margaret O'Kane", with a stylized flourish at the end.

Margaret O'Kane
President